USDA

United States Department of Agriculture

National Agricultural Statistics Service

Agricultural Statistics Board

Washington D.C. 20250

April 2017

2017 Potato Objective Yield Survey

Interviewer's Manual

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Chapter 1 – Potato Objective Yield Survey

General

You and approximately 120 other enumerators in the 7 major fall potato producing States of the US will be interviewing farmers and making counts and observations in their potato fields.

This manual is your guide for conducting the survey. It provides instructions for completing the survey and contains answers to most of the problems you may encounter on the job. You will be in a much better position to carry out your work if you study all sections of the manual thoroughly. Read it carefully and refer to it whenever you have a problem or are unsure of the proper procedure.

Supervisory enumerators will regularly review your work. They will provide guidance and assistance when needed. If you have a problem, contact your supervisor for help.

All procedures for the Potato Objective Yield Survey must be followed exactly as instructed in this manual. A relatively small sample of potato growers was selected for this survey and very small plots will be observed in sample fields. In fact, in the seven potato objective yield States which produce 77 percent of all U.S. fall potatoes, only 1,260 samples will be laid out totaling only about 3.6 acres. Therefore, it is extremely important that counts and procedures be accurate. Your job is important. Your work will provide data that have been requested by farmers, trade organizations and many others.

Purpose

The Potato Objective Yield Survey is conducted to provide data for making estimates of yield per acre. These data, in addition to data from the mail surveys conducted by NASS, provide important indications for potato yield statistics. Acreage information is also obtained from the survey. The acreage portion of the survey provides data showing acreage abandoned. This allows statisticians to estimate harvested acreage after the crop is planted.

Potato production estimates issued by NASS are used by the potato industry as a guide for planning business practices and policy. The data are available to all persons. Individual potato growers and local marketing associations would find it extremely difficult to compete in market negotiations without data provided by official estimates. Without the Agricultural Statistics Board estimates, buyers with representatives in several areas of the country would have a better knowledge of supplies than an individual grower, giving the buyer a marketing advantage. Potato statistics are also used by shippers, brokers, storage firms, processors, transportation firms and food distributors in planning their activities.

2016 Fall Potato Objective Yield Survey Statistics

Number of States in Program	7
Estimate Samples Laid Out	1,260
Total Acreage in Sample Units	3.6
Harvested Acres by OY States	745,900
Percent of U.S. Acres Harvested by OY States	74%
Percent of U.S. Crop Production by OY States	79%

From the table above you can understand why careful, accurate field work is so vital to this survey.

Farmer Benefit

The purpose of the objective yield survey is to accurately predict the production of potato crops at the State, Regional and National levels. The individual who needs this information most is the farmer. Only with accurate statistical information about the size of the crop can the farmer make knowledgeable decisions about (1) marketing strategies (i.e. to sell early using forward contracts, to sell on the cash market or to use a combination of these) (2) farming practices.

Potato Objective Yield Developed

Objective Yield surveys provide crop yield information for estimates or forecasts based directly on counts, measurements and weights of the crop made from small plots in a probability selection of sample fields. Objective yield surveys are completed in time to be used for the November Crop Production report.

Although crop acreage for potatoes changes from year to year, some of the largest variations in production are caused by fluctuations in the yield per acre. For the better part of a century, yield forecasts were based on appraisals of expected yield or condition of the crop as a percentage of normal. This survey procedure generally produced satisfactory forecasts and continues to be used.

However, large yield variations are often not fully reflected in growers' subjective appraisals. Also, sampling error cannot be measured for non-probability surveys. These problems led to the development of objective methods to forecast and estimate production. The objective yield measurement program has become a vital, strengthening factor in improving monthly production forecasts and estimates throughout the crop season.

There is a continual effort to improve procedures, simplify forms, and update methods to keep the Objective Yield survey responsive to the continuing changes in the crop production activities of the nation's agricultural economy.

Use of Reports Issued by USDA

Reports issued by the Department of Agriculture provide reliable and timely information for use by farmers, bankers, credit associations, buyers, agricultural economists, and policy makers. When all participants in the industry are accurately and equally informed by an unbiased source, no one has the advantage of rumors or other special information that could unfairly influence prices.

These reports may reach the farmer through the internet, commodity news service reports, television, radio, newspaper, and farm magazines. All these reports are based on NASS crop reports. In addition, farmers and other data users can request reports through their NASS Field Office.

Sometimes potato farmers feel that USDA reports only drive prices down. It is true that prices may change based on crop reports. In the long run, however, it is the actual supply entering the market along with demand that determines prices received by farmers. Reports have had a positive effect as often as a negative effect over the years.

Remember, if unbiased crop reports were not available to all parties, industry reports would be the only data available for farmers to use.

Farmers and other data users can request reports through the State Field Office. If the respondent would like a list of reports available from the NASS Field Office, give the operator the FO address or send the operator's name and address to your Survey Statistician.

The Sample

During interviews with potato growers you may be asked why or how selection was made for this survey. The grower may say that potatoes grown in the selected field are not average or that the selected field would not be representative of the area. Assure the grower that each grower and each field had an opportunity to be selected and that sample plots are randomly located in sample fields. Explain that this type of sampling is necessary to avoid biasing the survey with opinions which may be inaccurate.

NASS Field Offices developed a list of all farm operations. From this list a sample of farm operations was contacted during the June Agricultural Crops/Stocks Survey. The sample was then selected from farm operations that reported potatoes.

The sample is drawn in such a way that each producer has a chance of being selected. However, growers with large potato acreages are more likely to be selected than growers with small acreages. Likewise, a large field is more likely to be selected than a small field. It is possible that two or more samples may be assigned to one farm or even one field.

How Rows and Paces are Determined for Objective Yield

There is an upper limit on the field acres which are used to determine rows and paces. For corn, potatoes, soybeans, and cotton, the acres are set to 80 if there are more than 80 acres in the field. For all the wheat OY crops, the maximum field acres used are 128 acres. The field is assumed to be rectangular and the width is calculated as 5/8 of the length. These numbers are converted to paces and random numbers used to generate row and pace counts.

For corn, potatoes, soybeans, and cotton, when the number of rows and paces are generated, an adjustment is made so that the sample falls within 1/4 of the field (using the maximum field size described above). For wheat, when the number of rows and paces are generated, an adjustment is made so that the unit 1 sample falls within 1/4 of the field if field acres are ≤ 60 acres, and within 1/9 of the field if field acres are > 60.

These adjustments limit how many rows and paces the enumerators need to walk into the fields. For corn, potatoes, soybeans, and cotton, the maximum number of rows possible is 296 and the maximum number of paces is 473. For wheat, the maximum number of rows for unit 1 is 409 and the maximum number of paces for unit 1 is 256. (Unit 2 is then calculated as Unit 1 + 30 more paces).

Equipment

The items of equipment and supplies which will be used on the Potato Objective Yield Survey are listed below. Your supervisor is responsible for furnishing all necessary supplies and equipment; you are responsible for the proper use and care of this equipment. If your supplies run low or equipment becomes unusable, notify your supervisor. All equipment and unused supplies are to be returned to the State Office at the end of the season when instructed by your Survey Statistician.

List of OY Equipment and Supplies

☑	ITEM
☐	Interviewer's Manual
☐	Identification Card
☐	Form NAS-011 (Time and Mileage)
☐	ADM-009
☐	Motor Vehicle Accident Report Kit
☐	EPA booklet "Protect Yourself from Pesticides"
☐	First Aid Kit
☐	County Maps
☐	State Highway Map
☐	Canvas Satchel
☐	Clipboard
☐	3-Ring Notebook
☐	Sample Field Kit Envelopes
☐	Form A (blank)
☐	Extra copies of Forms
☐	Grid Maps
☐	Ball Point Pen
☐	Pencils
☐	Flagging Ribbon
☐	Anchor Pin
☐	Florist Stakes

☑	ITEM
☐	Unit Location Stakes
☐	Corner Stakes
☐	Area Scale
☐	Steel Tape, 50 feet, in tenths of feet
☐	Four-foot Wooden Dowel Stick
☐	Shovel or Potato Fork
☐	Tuber Gauge (1 1/2 in. inside diameter)
☐	Tooth Picks
☐	Ziploc Bags
☐	Mesh Bags
☐	Trash Bags
☐	Rubber Bands
☐	Sample ID Tags
☐	Shipping Labels or Address Tags
☐	Potato Mailing Cartons
☐	Field Sanitation Equipment
☐	Cleaning Brushes & Cloth
☐	Kraft Envelope-9-1/2" x 12"
☐	White Envelopes letter size
☐	Masking Tape
☐	Poly Gloves (optional)

Quality Control and Supervision

The Objective Yield Quality Control program is designed to aid in the supervision of enumerators, detect faulty equipment, and to assure that proper survey procedures are followed. A good quality control program will improve the results of the Objective Yield Survey.

The Survey Statistician is responsible for the overall objective yield program.

The Supervisory Enumerator is your immediate supervisor. Your supervisor will provide "on site" field training. Your supervisor will also spend several hours with each enumerator during the first few days of each survey period. New enumerators will be visited first and, if necessary, revisited after they have completed samples on their own.

Each Supervisory Enumerator will complete at least one quality control Form Q-1 for each enumerator under his or her supervision. The Survey Statistician will inform the Supervisory Enumerator of the samples selected for quality control. The supervisor and the enumerator should work the sample field together.

Field Sanitation

States require that certain sanitary procedures be followed when entering fields registered for certified seed production. These regulations minimize the spread of soil borne potato diseases. To improve relations with potato producers, precautionary measures will be followed for every field.

Minimum Requirements

Explain to the grower what field sanitation measures are taken. Plan your daily schedule to work the certified seed fields first each day. Keep your vehicle away from the field, especially if wet. Before entering and exiting every potato field, do the following:

- Disinfect all equipment (shovel, anchor pin, trowels, tapes, clipboard, and potato pail) carried into the potato field. Dry the tape with an oily rag to prevent rust.
- Wear disposable or rubber boots and disposable or washable gloves.
- Disinfect boots with an acceptable disinfectant using a foot bath.
- Cover the canvas satchel with a plastic trash bag if it will be carried into the field. Spray the inside of the satchel with Lysol.
- Clean all dirt off everything!
- Put disposable items in a trash bag and seal the bag. Use a separate trash bag for each sample.
- Disinfect all equipment again. Wipe the tape with an oily rag.

Acceptable Disinfectants

Your Survey Statistician will tell you which of the following disinfectants are acceptable for use in your State.

For Equipment and Boots:

- Hyamine 3500
- Rotocol II
- Debac
- TSP
- Tergisyl
- Vestal-Stroke Environ

For Clothing:

Headquarters recommends using disposable coveralls or fabric coveralls which are laundered in a disinfectant between field entries.

Lysol disinfectant is now labeled as "hazardous to humans".

If the Hyamine 3500 solution is used to disinfect equipment, the following procedures must be used to obtain the proper strength:

- Hyamine 3500 80 % solution: Mix 1.0 oz. per gallon of water.
- Hyamine 3500 50 % solution: Mix 1.5 oz. per gallon of water.

Pesticide Safety

A comprehensive pesticide safety program has been developed for all employees who may be exposed to pesticides while working on the Objective Yield Surveys. The program is designed to protect you from overexposure to harmful pesticides. Overexposure to pesticides, particularly insecticides, could result from home, garden and farm use, as well as unrestricted work in objective yield fields. Objective yield survey work, however, will pose no danger to your health when the safety precautions listed in these instructions are followed. Consult your copy of EPA's booklet "Protect Yourself from Pesticides - Guide for Agricultural Workers" for additional information.

The safety program monitors and restricts exposure to organophosphorus insecticides. These insecticides are highly toxic to humans for several hours after application. The toxicity drops over time, but the rate of decline depends on the product used, application rate, weather factors and other variables. Organophosphorus insecticides have been in common use for several years. Usage has increased sharply since DDT was prohibited. Organophosphorus insecticides are used on most crops. Take extreme caution to avoid exposure to these insecticides. Operators are required to post chemicals used and application dates. Be sure to locate and adhere to the posting.

The signs of pesticide poisoning may resemble fatigue or common symptoms of illness. You can protect yourself by knowing and being alert to the early warning signs of poisoning.

Look for any or all of these signs of sickness, but do not diagnose yourself -- go to your doctor.

Symptoms of Pesticide Poisoning

- Pupils of the eye reduced in size
- Headaches
- Dizzy spells
- Nervousness
- Sudden weakness
- Sick stomach
- Cramps
- Vomiting
- Diarrhea
- Heavy sweating
- Breathing difficulty
- Seizures
- Coma

Medical Attention

Go to the nearest qualified physician if poisoning symptoms appear. Explain your symptoms to your doctor and tell him you have been working in fields where insecticides may have been applied. Use your Form A's or B's or kit envelopes to determine the names of insecticides applied to fields where you have recently worked. Give this information to the doctor. Notify your Survey Statistician immediately. Do not return to work on Objective Yield Surveys unless you receive the doctor's permission and the Survey Statistician is notified.

IMPORTANT: Notify your Survey Statistician IMMEDIATELY whenever medical attention is required

Determining Use of Organophosphorus Pesticides

To provide maximum protection for your health, the pesticide safety program requires the following precautionary measures.

On the Forms A and B ask if any pesticide with organophosphorus content has been applied in the past month. If yes, obtain the name of the pesticide and the latest application date. Explain to the farmer that you work in many fields on many different farms during a short period of time and that the sole purpose of the question is to ensure that you will not be unnecessarily exposed to harmful insecticides. Informative notes, such as: "The operator will not apply a pesticide"; "He will apply some later"; "_____ (name of pesticide) was applied on _____ (date)", should be entered on the kit envelope for future reference.

Lists of organophosphorus insecticides are provided. Lists include the common names of recommended insecticides along with many trade names. If a trade name is not listed, determine the common name of the insecticide from the farm operator, insecticide dealer or County Extension Service. If an insecticide does not appear on the list, the insecticide dealer or County Extension Service should be able to tell you if it is an organophosphorus insecticide.

If the operator tells you on the Form A or Form B they will not apply any pesticides with organophosphorus content, write a note to that effect on the kit envelope. If at a later visit, it appears the operator may have applied a pesticide because of an odor in the air, unusual residue on leaves, presence of spraying or dusting machinery, other farmers in the area are spraying, or any other evidence, contact the operator before beginning your observations.

If the operator applied a pesticide or is undecided, contact him each month to check on the application date. Many of the known recommended insecticides for potatoes which are applied as a spray or dust to the foliage are listed below.

Organophosphorus Compounds

Many of the known recommended insecticides for potatoes which are applied as a spray, dust or granular formulation are on the following list.

Trade Name(s)	Common Name
Guthion, Sniper	Azinphos-Methyl
Fortess	Chlorethoxyfos
Lorsban	Chlorpyrifos
Multiple Names	Coumaphos
Demox, *Multiple Names*	Demeton
D-Z-N, Diazinon	Diazinon
DFP, *Multiple Names*	Diisopropyl fluorophosphate
Cygon, Dimethoate	Dimethoate
Di-Syston	Disulfoton
Mocap	Ethoprop
Baycid, *Multiple Names*	Fenthion
Cythion, Malathion	Malathion
Monitor	Methamidophos
Somonic, Ultracide, *Multiple Names*	Methidathion
Penncap-M, Methyl Parathion	Methyl Parathion
Apavinphos, CMDP, *Multiple Names*	Mevinphos
Azadrin, Bilobran, *Multiple Names*	Monocrotophos
Folimate	Omethoate
Zolone	Parathion
Thimet	Phorate
Imidan	Phosmet
Baythion	Phoxim
Abate	Temefos
Counter	Terbufos
Pyrethroids	
Baythroid	Cyfluthrin
Asana	Esfenvalerate
Warrior	Lambda-cyhalothrin
Ambush, Pounce	Permethrin
Carbamates	
Temik	Aldicarb
Sevin	Carbaryl
Furadan	Carbofuran
Lannate, Nudrin	Methomyl
Vydate	Oxamyl

Field Re-Entry Intervals

The field re-entry interval is the amount of time that must elapse between the time pesticides are applied and the time you may enter the field.

1 Day: Re-entry interval for fields treated with any chemical.

3 Days: Re-entry interval into fields sprayed with organophosphorus compounds is 3 days.

6 Hours: Maximum hours per day that can be worked in fields treated with organophosphorus compounds in the past 30 days.

When re-entering a field that was treated with organophosphorus compounds less than 30 days ago, please obey the following **safety instructions** without exception:

- Work is limited to 6 hours per day in these fields.
- Wear a long sleeve shirt, long trousers and head covering.
- Clothing must not be worn more than one day without laundering.
- Thoroughly wash all exposed skin areas (hands, face, etc.) that may have contacted foliage.

In addition to organophosphorus compounds, potato producers apply many other herbicides, fungicides, growth regulators, and defoliants. Re-entry intervals should be considered prior to entering a field in which any pesticide or harvest aid application is made. It is critical to contact the operator and obtain the name of any chemicals, their application date(s) and the advised re-entry interval associated with those products.

It may require a more thorough job of planning ahead to complete your assignments, but these intervals must be observed without exception to safeguard your health. The intervals provided are not expected to interfere with completing assignments unless some extremely unusual pest management practices are being followed.

Protective Clothing

Wear a long sleeve shirt, long trousers and head covering when working in fields that have had organophosphorus insecticides applied within the past 30 days. Do not wear clothing exposed to organophosphorus residues for more than one day. Take care in storing and laundering such clothing to avoid possible contamination of other clothing. If plant foliage is wet, wear water resistant or waterproof protective gear to prevent absorption of insecticides. When possible, wear disposable or fabric coveralls into fields.

Soap and Water for Decontamination

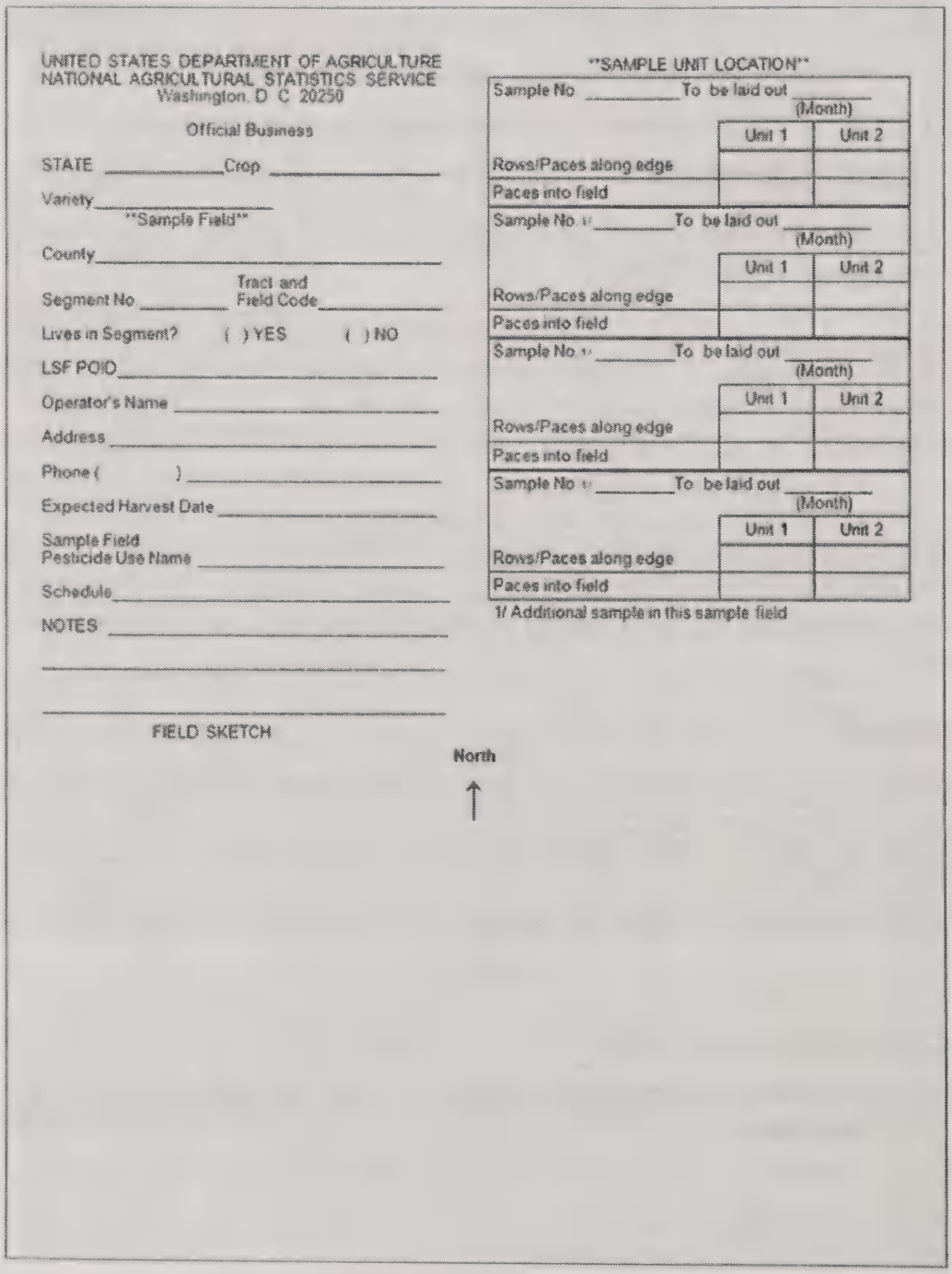
Carry water and bath soap when working in fields that have had applications of organophosphorus insecticides. After working in such a field, thoroughly wash all exposed skin areas that may have contacted plant foliage.

Sample Field Kits

All forms needed for each sample will be provided by your State office. The list IDs, sample number and other identification data will be pre-entered. Make sure identification on each form corresponds to the correct sample.

Forms are placed in a sample kit envelope before distribution. Each kit envelope contains forms for one or more samples. You will have one kit envelope for each operator selected. There will be a "set" of forms in each kit envelope for each sample on the selected operation. The operator's name and address are shown on each sample kit envelope.

Sample Field Kit Envelope



UNITED STATES DEPARTMENT OF AGRICULTURE
NATIONAL AGRICULTURAL STATISTICS SERVICE
Washington, D C 20250

Official Business

STATE _____ Crop _____

Variety _____

Sample Field

County _____

Segment No _____ Tract and Field Code _____

Lives in Segment? ( ) YES ( ) NO

LSF POID _____

Operator's Name _____

Address _____

Phone ( ) _____

Expected Harvest Date _____

Sample Field Pesticide Use Name _____

Schedule _____

NOTES _____

FIELD SKETCH

North

SAMPLE UNIT LOCATION

Sample No _____ To be laid out _____ (Month)		
	Unit 1	Unit 2
Rows/Paces along edge		
Paces into field		
Sample No 1/ _____ To be laid out _____ (Month)		
	Unit 1	Unit 2
Rows/Paces along edge		
Paces into field		
Sample No 1/ _____ To be laid out _____ (Month)		
	Unit 1	Unit 2
Rows/Paces along edge		
Paces into field		
Sample No 1/ _____ To be laid out _____ (Month)		
	Unit 1	Unit 2
Rows/Paces along edge		
Paces into field		

1/ Additional sample in this sample field

Guidelines for Completing the Questionnaire

1) Entries must be legible and made in black lead pencil.

2) Put all entries in the boxes provided. Note the preprinted decimal. Do not write in any bold outlined office use box unless instructed to do so.

3) Write notes in the margins or blank spaces to clarify or explain entries.

4) Record all acreage entries to the nearest tenth acre. If whole acres are reported, enter a zero to the right of the decimal point.

Military Time Conversion

Clock Time	Military Time
9:20 a.m.	0920
11:38 a.m.	1138
1:35 p.m.	1335
6:16 p.m.	1816

Operations with Multiple Samples

The interview time for each Form A should equal total interview time divided by number of samples. For example, if an operation has 10 samples and the total interview time is one hour, record an interview time of 6 minutes on each Form A.

Locating the Sample Operators

You will be assigned several samples. These samples will be concentrated in one geographic area as much as possible. For some enumerators, all samples may be located in one small community. For others, travel into several counties may be required.

The name and address of farm operators are written on the kit envelope. You may need to inquire locally for directions to the farm.

After locating the operator, introduce yourself and tell him that you are working with (your State) National Agricultural Statistics Service of the U.S. Department of Agriculture. Explain that the National Agriculture Statistics Service is conducting a yield survey and that his farm has been selected. Present the Objective Yield cover letter to the operator before the interview starts.

Producer Letter

United States Department of Agriculture
National Agricultural Statistics Service
[Your] Field Office

[Date]

Dear Producer:

For more than 50 years, the Objective Yield Survey has played an integral part in U.S. crop production forecasts. USDA's National Agricultural Statistics Service (NASS) combines field measurements with farmer-reported survey data to publish monthly crop production estimates.
Information from the Objective Yield Survey will help you and other American farmers make informed business decisions on your operations.

The Objective Yield Survey will begin in late April for wheat and late July for corn, cotton, potatoes, and soybeans. During these timeframes, a NASS representative will visit you and other selected producers to verify crop acreage reported on previous NASS surveys. This visit will take 15 to 25 minutes of your time. With your permission, we will then enter your field(s) at the end of each month during the growing season to collect plant and fruit counts and measurements. Our monthly follow-up visits, if required, will not require your time.

Thank you in advance for your support of our programs and [State] agriculture. If you have any questions or concerns, please contact me at (800) xxx-xxxx.

Sincerely,

[Director's Name]
Director, [Regional] Field Office
U.S. Department of Agriculture
National Agricultural Statistics Service

Enclosure

Mailing Address · City, State Zip
(000) 111-1111 · (000) 111-1111 FAX · www.nass.usda.gov

Turning in Completed Forms and Potato Samples

Review completed forms for each sample before mailing them to the State Field Office. Make sure that all required data are either entered or fully explained. Forms should be mailed the same day as completed. Toward the end of the survey period, your Survey Statistician may ask you to telephone data in before the forms are mailed.

All States will mail Form A to the State office. States sending samples to the Idaho and Maine labs will include Forms B and E (ID and ME only) with samples shipped to those labs. Other States will mail the Forms B and E directly to the State office.

Follow mailing instructions provided by your State Field Office as each State follows different procedures. Before mailing the Form A, copy the answer in Items 5, 6, 7, and 9 to the kit envelope.

Timetable and Forms Used

The following table shows when the Potato Objective Yield forms will be completed.

Timetable for Completing Potato Objective Yield Forms

Form	Survey Operation	Completion Schedule
A	Initial Interview	Before harvest becomes active in your area. Your State Field Office will assign a due date.
B	Pre-harvest Observation	When vines are dead or within two days of harvest.
E	Post-harvest Observation	Within three days after harvest. Completed for one fourth of the samples. A listing will be provided.

Monthly Program

The Potato Objective Yield Survey will be conducted in 6 States: Idaho, Maine, Minnesota, North Dakota, Oregon, Washington, and Wisconsin. The survey will begin on July 25th.

After the training workshop you will have your assignment and all equipment and supplies. You are ready to begin work. First, familiarize yourself with your assignment. Plan your work for orderly completion of the survey to minimize time and mileage.

Start work before harvest becomes active in your area. Interview each operator using Form A. Your State office will assign a due date for completion of all A Forms. Form A's should be completed to meet the September 1 Survey Summary date.

Following the initial interview, visit the sample field and mark the starting corner with flagging ribbon. If potato hills are ready for digging, lay out the unit and complete Form B. If hills are not yet ready for digging, Form B will be completed on a later visit.

Form B will be used for all samples to record field counts and observations. Form B will also be used in all States except Idaho, Maine and Washington to record field weights for the sample hills of potatoes that are dug.

Early in the harvest season, farmers sometimes contract potatoes for processing using a Green Contract procedure. They harvest potatoes with green vines to fill the immediate needs of a processor. The farmer may not harvest the entire area of the field, leaving what is left to grow and gain size and maturity.

If you have made counts and measurements in a green field, contact the farmer again to see if the count unit(s) have actually been harvested. If not harvested, see when harvest is expected to resume. Then make a re-count using an additional 5 rows and 5 paces and fill out another substitute Form B.

Within three days following the harvest of the sample field, lay out post-harvest sample units and complete Form E.

Post-harvest Gleanings Survey

Post-harvest gleaning Form E will be completed for one fourth of the samples. A sample listing will be provided. Keep in touch with the farmer so you will know when harvesting has been completed. Glean the sample units immediately after harvest before they are disturbed by birds and rodents or destroyed by plowing.

Chapter 2 – Terms & Definitions

General

Enumerators working on the Potato Objective Yield Survey should be familiar with the definitions of the terms listed below. To gain the most benefit from training, enumerators should review the definitions of these terms. Appendix A of the "Interviewer's Manual" should serve as a reference for definitions except for the ones detailed below.

Common Objective Yield Survey Terms

Enumerator
Field
List Sample
Lost Sample
June Agricultural Survey
New Field
Objective Yield Sample
Operator
Sample Field
Segment
Starting Corner
Supervisory Enumerator
Survey Statistician
Tract
Unit

Enumerator - A person trained to obtain information from respondents and make counts and measurements in selected plots in sample fields.

Hill of Potatoes - Potato plants growing from one or more seed pieces in close proximity. Most hills originate from one seed piece and will have more than one stem, but generally less than five.

June Agricultural Survey - An acreage survey conducted by NASS in early June. The sample fields in the Objective Yield Survey are selected from this survey.

Objective Yield Sample - Consists of two units which are always identified as Unit 1 and Unit 2. Each sample is identified by a unique number.

Supervisory Enumerator - A person who has responsibility for survey field activity of assigned enumerators. They have authority to make assignments, hire, and evaluate enumerators, in coordination with Survey Statistician.

Survey Statistician - Statistician responsible for a survey - including enumerator training, office editing, processing of forms, and interpretation of survey results, and processing of forms, and interpreting survey results.

–NOTES–

Chapter 3 – Form A Interview

General

Review the list of farm operators and look over the maps to get an idea of where samples are located. Decide which operators to contact first.

After locating the operator, introduce yourself and explain that you are representing the National Agricultural Statistics Service (NASS). Explain that NASS is conducting a potato yield survey and that this farm has been selected for study. The purpose of this survey is to estimate State and U.S. yields based on counts and measurements from small sample plots in selected fields. Indicate the importance of the survey and that cooperation will be helpful.

The first meeting with the farmer is very important. Review the discussion of interviewing techniques in the Enumerator Handbook.

Interview the farm operator using Form A. On the first page of Form A there is a short opening statement which briefly outlines the job to be done in each sample field. Use a conversational tone in making the statement and answer any questions the farmer may have.

If the farm operator is not at home, but is expected to return soon, call back later. If a farmer is not expected in time for call back before the due date for Form A, obtain the information from some other informed person. Complete the initial interview before the end of the fourth week in August. If no informed person can be found to give the information, contact your supervisor. Do not enter potato fields without permission.

The sample kit envelope contains a complete set of forms for each sample. When more than one sample is selected on a farm, you will have an initial interview form for each sample. However, do not complete all items on every initial interview form during the interview.

To avoid asking the operator duplicate questions during the initial interview, ask questions as follows:

- Form A, Items 1 and 2 - once for each farm.
- Form A, Items 3 through 9 - once for each sample field.

These questions provide the necessary information from the initial interview regardless of how many samples are located on the farm, or in the sample field. Shortly after the interview is over, copy the data to the appropriate Form A for all the samples.

The potato acreages on this form pertain to the grower's entire operation including that portion of an operation located out of State. The State Field Office has entered the name and address of the operation on the kit envelope and Form A. No data by fields are available prior to your visit. For Form A interviews, use the grid map forms to sketch the location of potato fields on the farm, list the fields in Table A, and select the sample field(s).

Form A

Use Form A for the initial interview of all sample potato growers. The name and address of the selected operation has been entered on the field kit envelope and Form A. Verification of this information is very important. Changes in name and address such as spelling, box or route number, and ZIP code should be corrected on the field kit envelope and on the Form A.

If the operation is known by farm, ranch or business name, this should also be noted. Listed below are examples of common corrections which should be made:

Mayes	~~Hayes~~, Arthur Rt. 1 Red Oakes, YS 46725	Codley, John Rt. 1, Box 608 ~~Pinetown, YS 54670~~ **Bear Poplar, YS 54690**
	Sanders, Tom & ~~Rob~~ ***Bob*** No. 2 Cove Road Jamesville, YS 46652	Flying J. Ranch MGR ~~Merle King~~ ***Bob Gray*** Rt. 1 Box 608 Edenton, YS 46647
SOLD	*Ridgeview Farms, Inc.* ~~Twin Ranch~~ MGR Tony Mills Evergreen, YS 46104	Paul Gum RR 5 Elkin, YS, 46520 Farm name - Hill High ~~Ranch~~ ***Farm***

The operator may have changed the acreage planted to potatoes since reporting intentions during the June Agricultural Survey. This means Item 2 will differ from Item 1. Never change Item 1. Write notes so the office staff understands the situation.

Example 1: The operator does not currently operate the entire acreage reported as potatoes in June. For example, part of the land was sold, leased, or rented to someone else.

Procedure:

1) Include the land that has changed hands with the original operator's acreage as you complete the grid, Table A, and Item 2. The original operator should be able to supply this information.
2) Select the sample field(s) based on the complete acreage in Table A. If the sample field(s) is controlled by the original operator, obtain permission to enter the field. If the sample field is now operated by a different person, contact this new operator for permission.
3) Obtain the name, address and phone number of the new operator regardless of whether you need to make contact on this survey.

Example 2: The operator currently operates more land than in June, and has planted some of this newly acquired acreage to potatoes.

Procedure:
1) Exclude this new acreage when you complete the grid, Table A, and Item 2.
2) Select the sample field(s), and proceed with the interview.

Example 3: The operator still operates the land reported in June and has not acquired additional acreage. The difference between Item 1 and Item 2 is a respondent or enumerator error on the June Agricultural Survey or the operator changed actual planting from the intentions reported earlier.

Procedure:
1) Complete the grid, Table A and Item 2 based on current acreage.
2) Do not change Item 1, even if the figure is in error. Write notes.

Earlier this season you gave a representative from our office information about the potato acreage on your farming operation. We are now collecting information to help determine potato production in (*Your State*) and the United States.

The information you provide will be used for statistical purposes only. In accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107–347 and other applicable Federal laws, your responses will be kept confidential and will not be disclosed in identifiable form to anyone other than employees or agents. By law, every employee and agent has taken an oath and is subject to a jail term, a fine, or both if he or she willfully discloses ANY identifiable information about you or your operation. Response is **voluntary**.

Respondent Name: _____

This statement briefly explains why you are there and what you want. The respondent may require a more detailed explanation of the survey at this point. Be ready to explain the purpose and how the survey is conducted. Stress the necessity for a survey of this type to be representative for the State and not just this farm or immediate area. Impress on the farmer that data from this survey will be used in preparing official estimates of potato production which help growers compete at the market place. Samples may be in exceptionally good or poor fields, in large or small fields; however, they will represent similar fields on a statewide basis. Always enter the respondent's name in the space provided on Page 1. This will allow the office to check acreage differences between the June Survey and the Form A.

STARTING TIME
(Military Time)
171

Record the date and starting time on the face page of the Form A.

1. Earlier this season, the number of potato acres you had **planted or intended to plant** on all the land you operate was . . . . . 101 .

Now I need to locate all of your potato fields and obtain the acreage in each field. DO NOT
This will be used to randomly select one or more of your fields for objective yield observations. CHANGE

- ▶ Draw each potato field on grid map.
- ▶ Number fields; north to south – west to east.
- ▶ Complete column 2 if required by your Survey Statistician.
- ▶ Record the VARIETY of potatoes planted in each field.
- ▶ Obtain acres actually PLANTED in each field.
  Exclude acres in roads, ditches, rock piles and other non-planted acres.
- ▶ Obtain acres for HARVEST in each field. Exclude acres already abandoned or otherwise not intended for
- ▶ Accumulate ACRES FOR HARVEST, field by field, to a total for the entire operation.

The total acres planted on the grower's entire operation as listed on the face page has been entered in Item 1. Do not change this entry. Verify this acreage by listing each field separately in the table.

This statement will serve as an introduction to the bullet items in question 1. The reason for mapping the entire operation by fields is to have a uniform way of numbering the fields and to have an unbiased method of selecting the sample field.

- ▶ Draw each potato field on a grid map.

The purpose of the grid is to assure accurate location of each potato field on all the land operated. Start with any field the operator chooses, and identify each potato field with the number of acres in the field. Sketch state, county or rural roads plus any natural boundaries that help the operator keep track of the fields.
Scale is not important; however the relative location is critical. The northern most field should be nearest the top of the grid and the western most farthest left. You may want to start by locating the homestead in the grid.

NOTE: A field by definition contains only one variety of potatoes.

- ▶ Number fields; north to south -- west to east.

Number the northernmost field first. If two fields are the same distance north, number the field on the west (left side) first. If a grower's operation requires two or more maps, arrange the maps geographically and number fields consecutively through all maps. If the potato acreage is located in more than one county, arrange the maps approximately as the counties are located and number the fields accordingly. Place the grid maps in the sample field kit envelope.

- ▶ Complete column 2 if required by your Survey Statistician.
- ▶ Record the VARIETY of potatoes planted in each field.
- ▶ Obtain acres actually PLANTED in each field.
- ▶ Exclude acres in roads, ditches, and other non-planted acres.
- ▶ Obtain acres for HARVEST in each field. Exclude acres already abandoned or otherwise not intended for harvest.
- ▶ Accumulate ACRES FOR HARVEST, field by field, to a total for the entire operation.

To accumulate, add the acres for harvest in the top line for each field to the previous cumulative entry. Cumulative total acres for field number one will always equal the acres of potatoes for harvest in the field. The cumulative total acres for the last field listed will always equal the total acres for harvest on the entire operation.

TABLE A – (*continued*)

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
1			. ____	. ____ Cum. . ____
2			. ____	. ____ Cum. . ____
19			. ____	. ____ Cum. . ____
20			. ____	. ____ Cum. . ____
a. The total acres of potatoes planted on the land you operate is			102 . ____	

Sum column 4, acres planted, and enter acres in box. Verify total with respondent.

2. **The total potato acreage** (*column 5*) **for harvest on the land you operate is.. ACRES** 103 . ____

Is that right? ☐ **YES** – *Continue.* ☐ **NO** – *Review all fields, correct table A and item 2.*

IF ITEM 2 HAS { -- A ZERO entry – Return all forms.
-- An Acreage entry – Make selection of sample field(s).

If the respondent answers yes, enter acres in the answer box and select the sample field(s).

If the respondent answers no, check your addition and make the necessary corrections. Then select the sample field(s).

If Item 2 is "zero", conclude interview and return all forms.

Selection of Sample Field(s)

Now select a sample field for each sample number listed in Table B, Form A. The sample number and selected acre for each sample have been entered by the State office. For each of these samples, observations will be made and hills will be dug in two separate units.

The sample number and selected acre will determine in which field(s) the sample(s) will be laid out. Large fields may have more than one sample selected. If only one field is listed in Table A, that field will automatically become the sample field.

To Select the Sample Field:

a) Select the first field in Table A in which the cumulative harvested acres equals or exceeds the selected acre for that sample shown in Table B.

b) Enter selected field number in Table B.

c) Circle the selected sample field number in Table A. (Sample number for the field circled in Table A must be the same as shown in the ID label of Form A.)

d) For additional samples shown in Table B, repeat steps a, b, and c above.

Example 1

One sample will be laid out for the operation shown. Notice on Table A that field 4 was the first field listed for which the cumulative acres equals or exceeds 88.0.

1. Earlier this season, the number of potato acres you had **planted or intended to plant** on all the land you operate was 101 **131. 0**

DO NOT CHANGE

Now I need to locate all of your potato fields and obtain the acreage in each field.
This will be used to randomly select one or more of your fields for objective yield observations.

TABLE A

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
1		Superior	35. 0	35. 0 Cum. 35. 0
2		Cobbler	23. 0	23. 0 Cum. 58. 0
3		Russet Burbank	23. 0	23. 0 Cum. 81. 0
(4)		Chippewa	15. 0	15. 0 Cum. 96. 0
5		Katahdin	28. 0	25. 0 Cum. 121. 0
6		Norchip	7. 0	7. 0 Cum. 128. 0

TABLE A – (*continued*)

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
20			. ___	. ___
				Cum. . ___

a. The total acres of potatoes planted on the land you operate is 102 **131. 0**

2. **The total potato acreage** (*column 5*) **for harvest on the land you operate is** **ACRES** 103 **128. 0**

Is that right? ☐ **YES** – *Continue.* ☐ **NO** – *Review all fields, correct table A and item 2.*

IF ITEM 2 HAS { -- A ZERO entry – Return all forms.
-- An Acreage entry – Make selection of sample field(s).

TABLE B

SELECTION OF SAMPLE FIELD(S) ON THIS FARM

Sample Number(s)	Selected Acre(s)	Selected Field Number(s)
47	88. 0	4
	. ___	
	. ___	
	. ___	
	. ___	

a. Select first field in Table A in which the cumulative harvested acres equals or exceeds the selected acre for sample as shown in Table B.

b. Enter selected field number in Table B.

c. Circle selected sample field number in Table A. Enter field acreage (Column 5) in item 3.

Example 1

Two samples will be laid out for the operation. Select the field for sample 24 first. This will be the first field listed in Table A for which the cumulative acres equals or exceeds 295.3.

Select field number 12 for laying out Sample 24. Enter field number 12 in Table B opposite Sample 24. Circle field number 12 in Table A on the Form A for Sample 24. Enter 60.0 acres in Item 3 of Form A, Sample 24.

Now select the sample field for Sample 25. The selected acre is 670.7 and the first field for which the cumulative acres equals or exceeds the selected acre is field number 16. Enter this number in Table B for Sample 25, Form A. Circle field number 16 in Table A on Form A for Sample 25. Enter 205.0 acres in item 3 of Form A, Sample 25.

1. Earlier this season, the number of potato acres you had **planted or intended to plant** on all the land you operate was 101 1,105. 0

DO NOT CHANGE

Now I need to locate all of your potato fields and obtain the acreage in each field.
This will be used to randomly select one or more of your fields for objective yield observations.

TABLE A

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
1		Superior	10. 0	10. 0 Cum. 10. 0
2		Superior	10. 0	10. 0 Cum. 20. 0
3		Cobler	20. 0	20. 0 Cum. 40. 0
4		Norchip	10. 0	10. 0 Cum. 50. 0
5		Superior	30. 0	30. 0 Cum. 80. 0
6		Cobler	20. 0	20. 0 Cum. 100. 0
7		Norchip	30. 0	30. 0 Cum. 130. 0
8		Superior	20. 0	20. 0 Cum. 150. 0
9		Superior	25. 0	25. 0 Cum. 175. 0
10		Cobler	25. 0	25. 0 Cum. 200. 0
11		Norchip	50. 0	50. 0 Cum. 250. 0
(12)		Superior	60. 0	60. 0 Cum. 310. 0
13		Cobler	90. 0	90. 0 Cum. 400. 0
14		Cobler	150. 0	150. 0 Cum. 550. 0
15		Norchip	50. 0	50. 0 Cum. 600. 0

TABLE A – (*continued*)

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
(16)		Superior	205.0	205. 0
				Cum. 805. 0
17		Superior	100.0	100. 0
				Cum. 905. 0
18		Superior	200.0	200. 0
				Cum. 1,105. 0
19			. ___	. ___
				Cum. . ___
20			. ___	. ___
				Cum. . ___

A. The total acres of potatoes planted on the land you operate is 102 **1,105. 0**

2. **The total potato acreage** (*column 5*) **for harvest on the land you operate is.** ACRES 103 **1,105. 0**

Is that right? ☐ **YES** – *Continue.* ☐ **NO** – *Review all fields, correct table A and item 2.*

IF ITEM 2 HAS { -- A ZERO entry – Return all forms.
-- An Acreage entry – Make selection of sample field(s).

TABLE B

SELECTION OF SAMPLE FIELD(S) ON THIS FARM

Sample Number(s)	Selected Acre(s)	Selected Field Number(s)
24	295.3	12
25	620.7	16

a. Select first field in Table A in which the cumulative harvested acres equals or exceeds the selected acre for sample as shown in Table B.

b. Enter selected field number in Table B.

c. Circle selected sample field number in Table A. Enter field acreage (Column 5) in item 3.

Selected Acre Larger than Cumulative Acres

When only one selected acre entry exceeds the cumulative acres on a farm, lay out the corresponding sample in the last field listed in Table A.

When two or more selected acre entries exceed the cumulative acres on the farm, adjust all selected acre entries before selecting any sample field using the following formula:

Item 103 ÷ Item 101 = Ratio (three decimal places)

Ratio x Each Selected Acre = Adjusted Selected Acre

Show computations for adjusting the selected acre entries on the margin of Form A. Enter adjusted selected acres to the right of the original selected acre in Table B of Form A. Use adjusted selected acres to select sample fields following the instructions given above.

Example 3 (*next page*)

The selected acres in Table B are more than the cumulative acres for the farm. Item 103 (acres now)/Item 101 (acres reported on June Survey) would be 75/200 = .375. Then .375 x 79 = 29.6 and .375 x 183 = 68.6. Field 2 would then be designated sample 15 and field 3 would be sample 16.

1. Earlier this season, the number of potato acres you had **planted or intended to plant** on all the land you operate was 101 **200. 0**

DO NOT CHANGE

Now I need to locate all of your potato fields and obtain the acreage in each field.
This will be used to randomly select one or more of your fields for objective yield observations.

TABLE A

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
1		Superior	8. 0	8. 0 Cum. 8. 0
2		Superior	45. 0	25. 0 Cum. 33. 0
3		Norchip	50. 0	40. 0 Cum. 73. 0
4		Norchip	2. 0	2. 0 Cum. 75. 0
20				Cum.

a. The total acres of potatoes planted on the land you operate is 102 **105. 0**

2. **The total potato acreage** (*column 5*) **for harvest on the land you operate is.** . . . . . ACRES 103 **75. 0**

Is that right? ☐ **YES** – *Continue.* ☐ **NO** – *Review all fields, correct table A and*

IF ITEM 2 HAS { -- A ZERO entry – Return all forms.
-- An Acreage entry – Make selection of sample field(s).

TABLE B

SELECTION OF SAMPLE FIELD(S) ON THIS FARM

Sample Number(s)	Selected Acre(s)	Selected Field Number(s)
15	29.6 * 79.0	2
16	68.6 *	3

a. Select first field in Table A in which the cumulative harvested acres equals or exceeds the selected acre for sample as shown in Table B.

b. Enter selected field number in Table B.

c. Circle selected sample field number in Table

75/200 = .375

.375 x 79 = 29.6

.375 x 183 = 68.6

3. Acres of potatoes to be harvested in Sample Field Number _____
(*Exclude acres planted to potatoes but not intended for harvest.*)..... ACRES 105 . ___

This item will be copied from Table A and will help verify the acres for harvest and identify the sample field. It is important the respondent knows the designated sample field since questions 4-10 apply to the sample field only.

Continue the interview by asking Items 4-10 for each sample field. If there were two samples for the farm operation, complete questions 4-10 for each sample field.

4. On what date was planting completed in this potato field? ..... MM DD 107

Record the date that planting of the sample field was completed. If the field was replanted, record the date of the last planting. If the date is not known use the farmer's best estimate.

5. When do you expect to begin harvesting this field? (**Month / Day**) _____

a. When do you plan to top kill this field? (**Month / Day**) _____

Item 5 is the approximate date the grower expects to start harvesting the field. Ask probing question(s) to provide alternative plans possible for field harvest. A grower may harvest before vines are dead, if he has a Green Contract. See page 115, paragraphs 5 and 6 for procedures to be followed for Green Contract fields. For later fields, finding out when the farmer plans to Top Kill vines will also help pin point when harvest may occur. The purpose of these probing questions is to avoid losing the sample, and to obtain an indication of when the post-harvest gleaning can be scheduled. Copy the likely harvest date to the sample kit envelope.

6. Have or will you enter this field for certified seed production?

☐ **YES = 1** ☐ **NO = 3** . . . . . **CODE** 108

Determine if the field has been or will be entered with the State Inspection Authority for production of certified seed. Enter a Code "1" for yes or Code "3" for no.

Fields entered for certified seed must meet State regulations. The regulations include sanitary procedures. All growers are aware of these regulations and will in some cases refuse to let any sampling work be conducted unless these precautionary measures are observed. The required procedures before entering a sample field will vary from State to State. The minimum requirements in Chapter 1 will serve as a guideline but these minimums do not replace State regulations.

The importance of following your State's sanitary regulations cannot be over-emphasized. Contamination of the field could lead to loss of certification which means serious financial loss to the farmer.

7. Has this field been (or will it be) irrigated? ☐ **YES = 1** ☐ **NO = 3** . . . . **CODE** 109

Enter code 1 for yes if water has been or will be applied by irrigation to all or part of this field at least one time, or a code 3 for no.

8. With your permission I will go out to the field to make observations and dig a few hills. Would that be alright?

☐ **YES** – *Continue.* *If this is a gleaning sample, tell the operator,* **"After harvest, I will also lay out two small plots to determine harvest loss."**

☐ **NO** – *Conclude interview and return all forms.*

The purpose of Item 8 is to obtain the farmer's permission to make observations and diggings. Tell the operator you will lay out two units and dig three hills in each unit just prior to harvest. Do not enter potato fields without permission.

9. Have you or will you apply pesticides with organophosphorus content to the sample field?

☐ **YES** ☐ **NO** ☐ **DON'T KNOW**

*If YES, enter latest application date*_____ *and name of pesticide* _____

The purpose of this question is to alert you to the use of organophosphorus pesticides. If organophosphorus pesticides have or will be used, copy this information to the kit envelope and follow pesticide safety procedures described in Chapter 1.

PLEASE CHECK THE FOLLOWING:

- Review for completeness
- Record ending time and sign name.
- Copy answers in items 5, 6, 7, 9 and variety of sample field to the kit envelope.
- Record operators'
  - Telephone number.
  - Harvest date.
  - Pesticide intentions (Item 9)

Ending Time (Military Time)	172
Enumerator Number	190
Supervisor Number	191
Area Location Code (optional)	198
County (optional)	199
Evaluation	193
R. Unit	9921
STATUS CODE	180

10. **Enumerator Name** _____

Review the form for completeness, enter the enumerator and supervisor numbers and sign your name in the space provided. Thank the farmer for cooperating.

The interview time recorded at the bottom of the form should reflect only the time required for the Form A interview.

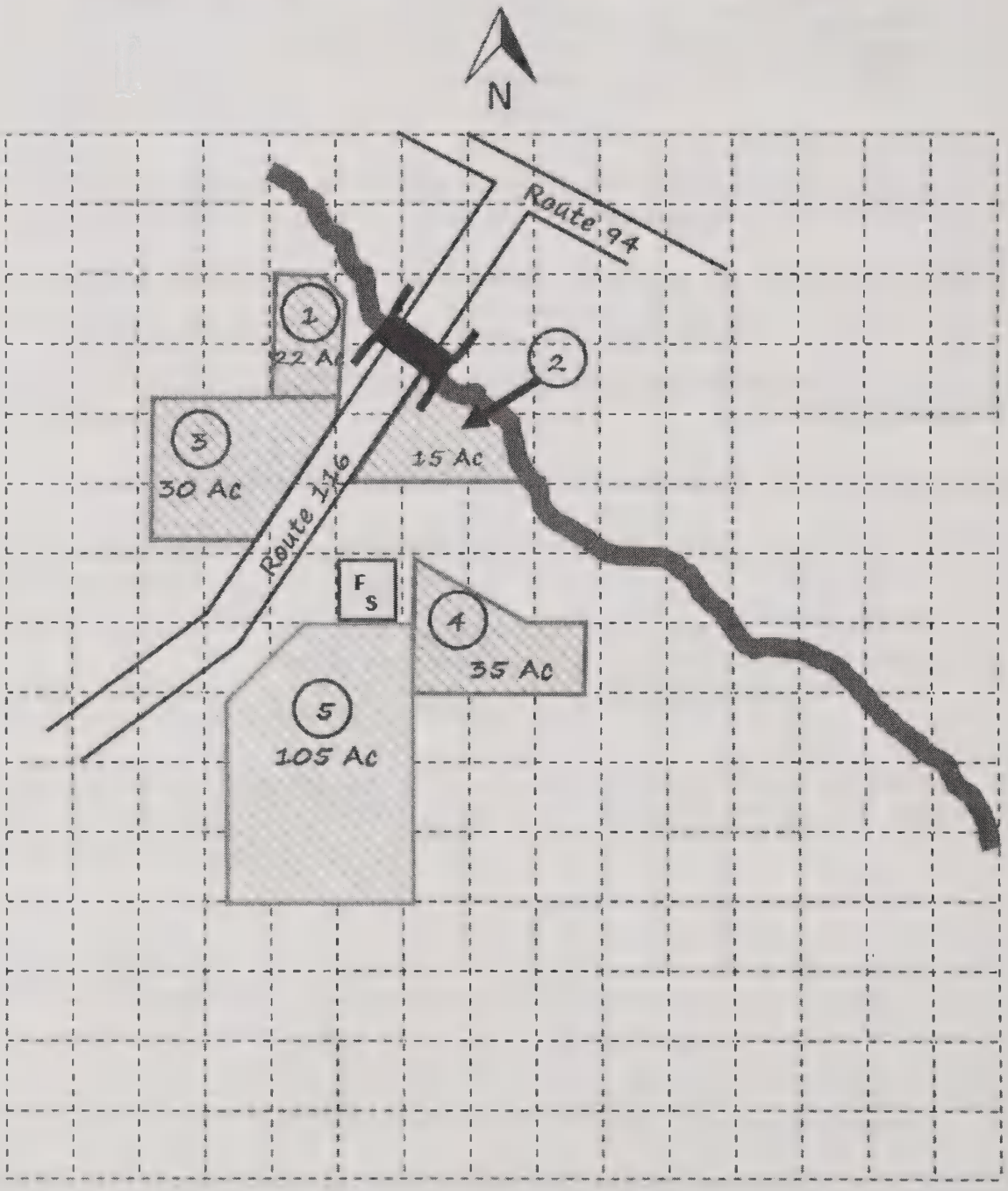
Copy the answer in Item 5, 6, 7, 9 and variety of sample field to the kit envelope.

Objective Yield Grid Map

OBJECTIVE YIELD GRID MAP

Operator's Name: Bill Carlson County: Henderson

Sample Number(s): 42 Survey: Potato OY



Project Code 117 QID 120038 A OMB No. 0535-0088. Approval Expires 7/31/20YY

USDA

FORM A
POTATO YIELD SURVEY INITIAL INTERVIEW
20YY

NATIONAL AGRICULTURAL STATISTICS SERVICE

Earlier this season you gave a representative from our office information about the potato acreage on your farming operation. We are now collecting information to help determine potato production in (*Your State*) and the United States.

The information you provide will be used for statistical purposes only. Your responses will be kept confidential and any person who willfully discloses ANY identifiable information about you or your operation is subject to a jail term, a fine, or both. This survey is conducted in accordance with the Confidential Information Protection provisions of Title V, Subtitle A, Public Law 107-347 and other applicable Federal laws. For more information on how we protect your information please visit: https://www.nass.usda.gov/confidentiality. Response is voluntary.

Respondent Name: _____

STARTING TIME
(Military Time)
171

- 2 -

1. Earlier this season, the number of potato acres you intended to harvest on all the land you operate was . . . . . ACRES 101 DO NOT CHANGE

Now I need to locate all of your potato fields and obtain the acreage in each field.
This will be used to randomly select one or more of your fields for objective yield observations.

- ► Draw each potato field on grid map.
- ► Number fields; north to south – west to east.
- ► Complete column 2 if required by your Survey Statistician.
- ► Record the VARIETY of potatoes planted in each field.
- ► Obtain acres actually PLANTED in each field
  Exclude acres in roads, ditches, rock piles and other non-planted acres.
- ► Obtain acres for HARVEST in each field. Exclude acres already abandoned or otherwise not intended for harvest.
- ► Accumulate ACRES FOR HARVEST, field by field, to a total for the entire operation.

TABLE A

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
1			. ___	. Cum. .
2			. ___	. Cum. .
3			. ___	. Cum. .
4			. ___	. Cum. .
5			. ___	. Cum. .
6			. ___	. Cum. .
7			. ___	. Cum. .
8			. ___	. Cum. .
9			. ___	. Cum. .
10			. ___	. Cum. .
11			. ___	. Cum. .
12			. ___	. Cum. .
13			. ___	. Cum. .
14			. ___	. Cum. .
15			. ___	. Cum. .

- 3 -

TABLE A – (*continued*)

FIELD NUMBER	FO OPTIONAL USE	VARIETY	ACRES PLANTED	ACRES FOR HARVEST Cum. = Cumulative Total
1	2	3	4	5
16				Cum.
17				Cum.
18				Cum.
19				Cum.
20				Cum.

a. The total acres of potatoes planted on the land you operate is 102

2. **The total potato acreage** (*column 5*) **for harvest on the land you operate is. . .** ACRES 103

Is that right? ☐ **YES** – *Continue.* ☐ **NO** – *Review all fields, correct table A and item 2*

IF ITEM 2 HAS { – A ZERO entry – Return all forms.
– An Acreage entry – Make selection of sample field(s)

TABLE B

SELECTION OF SAMPLE FIELD(S) ON THIS FARM

Sample Number(s)	Selected Acre(s)	Selected Field Number(s)

a. Select first field in Table A in which the cumulative harvested acres equals or exceeds the selected acre for sample as shown in Table B

b. Enter selected field number in Table B.

c. Circle selected sample field number in Table A. Enter field acreage (Column 5) in item 3.

OFFICE USE ONLY

Variety planted in sample field 104

Sum Planted Acres by Variety

- 4 -

All questions on this page apply to the SAMPLE FIELD ONLY.

3. Acres of potatoes to be harvested in Sample Field Number _____
(*Exclude acres planted to potatoes but not intended for harvest.*) ..... ACRES | 105 |

4. On what date was planting completed in this potato field? ..... MM DD | 107 |

5. When do you expect to begin harvesting this field? **(Month / Day)** _____

   a. When do you plan to top kill this field? **(Month / Day)** _____

6. Have or will you enter this field for certified seed production?

   ☐ **YES = 1** ☐ **NO = 3** ..... CODE | 108 |

7. Has this field been (or will it be) irrigated? ☐ **YES = 1** ☐ **NO = 3** .. CODE | 109 |

8. With your permission I will go out to the field to make observations and dig a few hills.
Would that be alright?

   ☐ **YES** – *Continue.* *If this is a gleaning sample, tell the operator,*
   "After harvest, I will also lay out two small plots to determine harvest loss."

   ☐ **NO** – *Conclude interview and return all forms.*

9. Have you or will you apply pesticides with organophosphorus content to the sample field?

   ☐ **YES** ☐ **NO** ☐ **DON'T KNOW**

   *If YES, enter latest application date*_____ *and name of pesticide* _____

PLEASE CHECK THE FOLLOWING:
- Review for completeness
- Record ending time and sign name.
- Copy answers in items 5, 6, 7, 9 and variety of sample field to the kit envelope.
- Record operators'
  - Telephone number.
  - Harvest date.
  - Pesticide intentions (Item 9)

Ending Time (Military Time)	172
Enumerator Number	190
Supervisor Number	191
Area Location Code (optional)	198
County (optional)	199
Evaluation	193
R. Unit	921

10. **Enumerator Name** _____ STATUS CODE | 180 |

Chapter 4 – Unit Location

General

Sample units will be located in all sample fields with acres of potatoes for harvest (positive entries in item 3, Form A), provided the operator has given permission. After completing the initial interview, locate the sample field and mark the starting corner with flagging ribbon. Proceed to lay out the unit if:

Potato vines are dead and no further plant growth is evident

- OR -

The **operator plans to harvest** the field **within** the next **two days**.

If neither of these conditions are satisfied, return at a later date to lay out the sample units and complete the Form B observations.

Location, Layout, and Marking Unit 1

Immediately after completing the Form A interview and before going to the sample field, determine the rows and paces to be used for locating the units. To do this, find the appropriate field size on the labels on the back of the field kit envelope. The acres of potatoes for harvest in Item 3, Form A determine which column is used. Circle the unit location numbers under the appropriate field size on the labels. The rows line corresponds to rows along the edge of the field and the paces line corresponds to the paces into the field. Copy these unit location numbers to the Form B and Form E for that sample.

For subsequent sample locations, use the next set of unused labels. Circle the numbers as they are used. There is one set of labels for every sample selected for an operation.

The point of entry into the field will be the first corner of the field reached when approaching the field. Remember that the point or corner selected for entry into the field must allow the opportunity for the units to fall anywhere within the sample field boundaries. If the field has no definite corners, enter the field from the point which is most accessible by car. If the field has been selected for more than one sample, the second (third) closest corner will be used as the starting point for the second (third) sample number. Unit 1 and Unit 2 are located independently of each other. Unit 1 should always be laid out before Unit 2, even though about half the time Unit 2 will be closer to the point of entry into the field.

The steps outlined below should be followed completely when locating, laying out and marking sample units.

Step 1 This step will be done immediately following the initial interview. Mark the starting corner of the field so that it can be identified. Tie a piece of flagging ribbon to a fence or some nearby object, or drive a stake in the ground and attach the ribbon. Do not use a large stake that would damage equipment. Note the location and type of marking used on the sample field sketch.

Step 2 Walk along the end of the potato rows until you have counted the number of rows indicated for Unit 1. This will be Unit 1 Row 1.

Step 3 Walk the required number of paces into the field along the middle between the sample row and the next row in the direction of travel. Start your first pace about one and one-half feet before the plowed edge of the field.

Step 4 After you have taken the last of the required paces, lay the dowel stick down so that it touches the toe of your shoe, across the sample row and at right angles to the direction of the rows. Lay out Unit 1 in the direction of travel when you counted your last pace.

Step 5 Anchor the zero end of the 50-foot steel tape adjacent to the dowel stick and next to the hills in the sample row. The zero end of the tape must be anchored firmly so it will not move when measurements are made. If the vines are green, run your tape next to the plants and as close to the top of hills as possible. **Do not make the measurements over the top of the plants.**

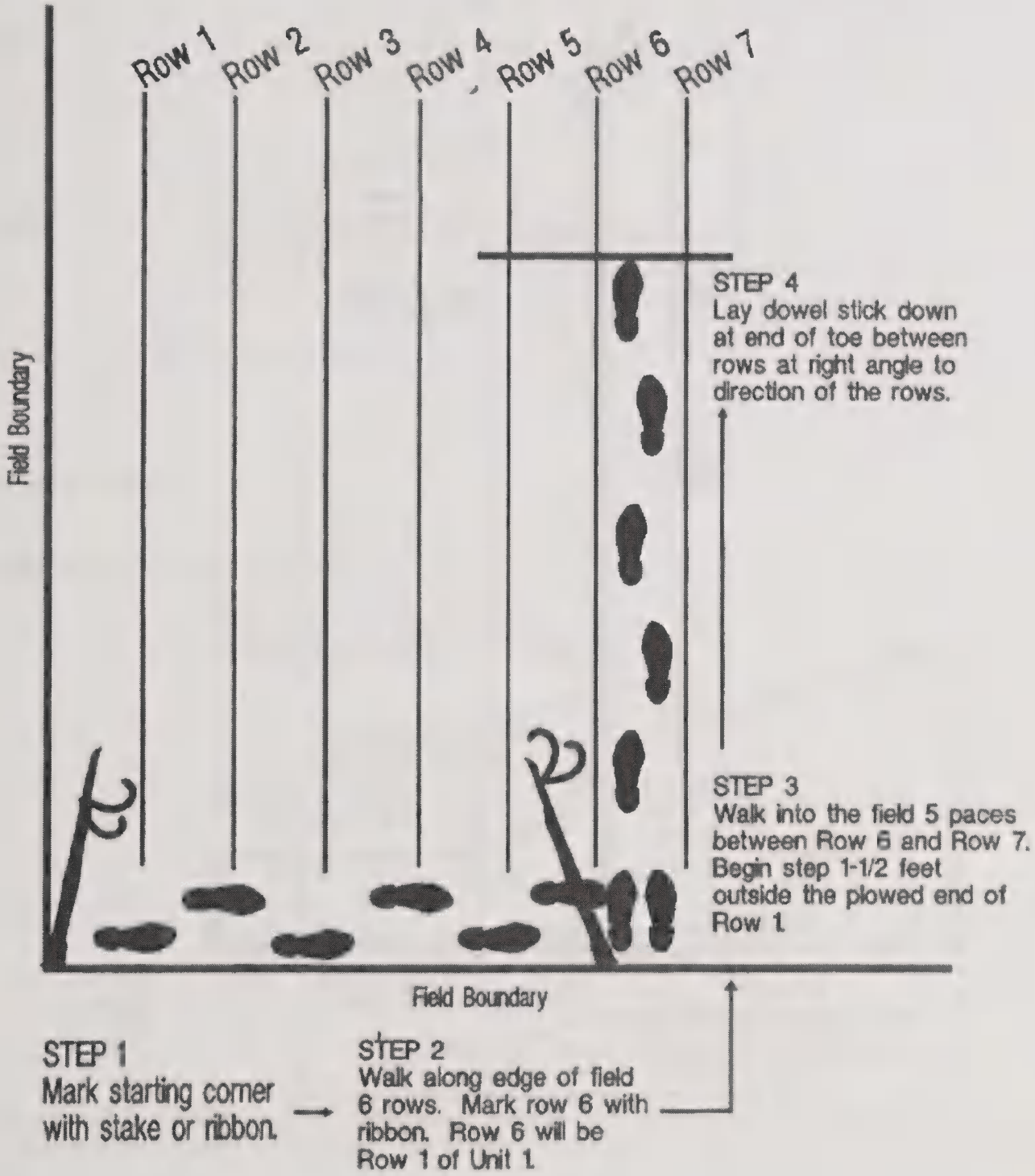
Step 6 Insert a florist stake exactly 5 feet from the anchor point.

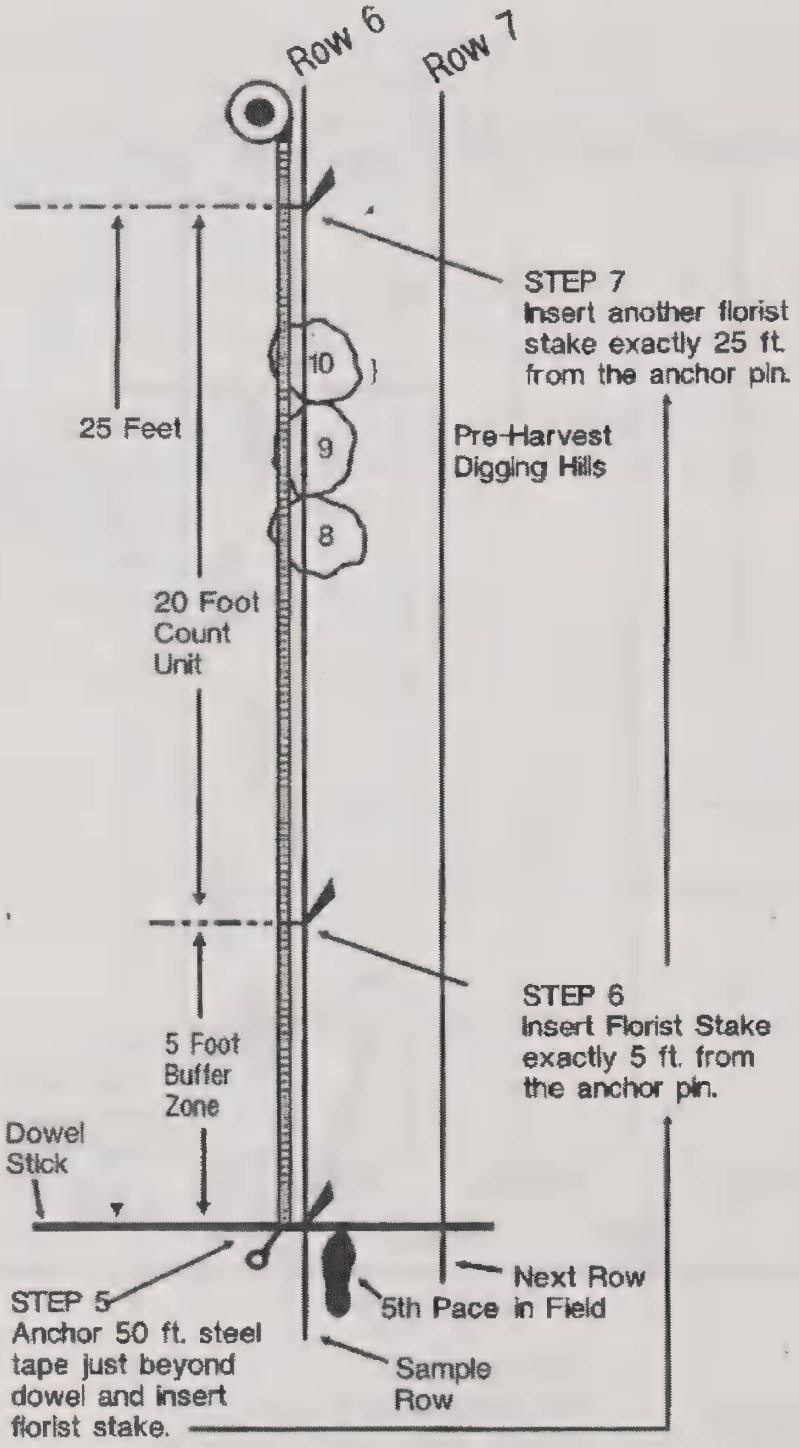
Step 7 Insert a florist stake exactly at the 25 feet mark. These stakes should be placed straight up with the flat side at right angles to the row and as close to the center of the hills as possible. These stakes define the bounds of the 20-foot count unit.

DO NOT MOVE FLORIST STAKES.

General Instructions for Locating Units

Example: Unit 1 is located 6 rows along the edge of the field and 5 paces into the field.




Row 6
Row 7
STEP 7
Insert another florist stake exactly 25 ft. from the anchor pin.
10
9
8
25 Feet
Pre-Harvest Digging Hills
20 Foot Count Unit
STEP 6
Insert Florist Stake exactly 5 ft. from the anchor pin.
5 Foot Buffer Zone
Dowel Stick
Next Row
5th Pace in Field
STEP 5
Anchor 50 ft. steel tape just beyond dowel and insert florist stake.
Sample Row

Locating Unit 2

After completing all counts and digging the designated hills in Unit 1, locate Unit 2. The rows and paces shown on Form B for Unit 2 relate to the starting corner. Unit 2 should always be located in relation to the starting corner. The same steps apply in locating Unit 2 as were used in locating Unit 1, namely:

Step 1 Go back to the beginning of the row 1, Unit 1, and then locate the correct row from the starting corner for Unit 2. This will be the sample row of Unit 2.

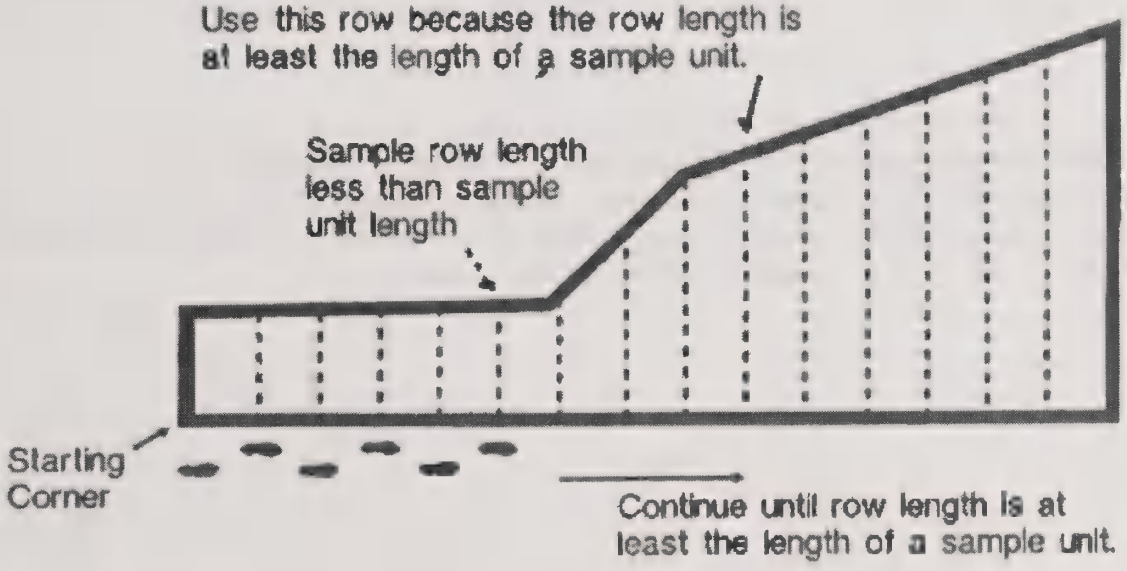
Step 2 Walk the required number of paces into the field in the middle between the sample row and the next row away from the starting corner unless you have bounced back.

Step 3 After counting your last pace, lay the dowel stick down so that it touches the toe of your shoe, across the sample row and at right angles to the direction of the rows. Lay out Unit 2 in the direction of travel when counting the last pace.

Step 4 Lay out and mark Unit 2 the same as Unit 1.

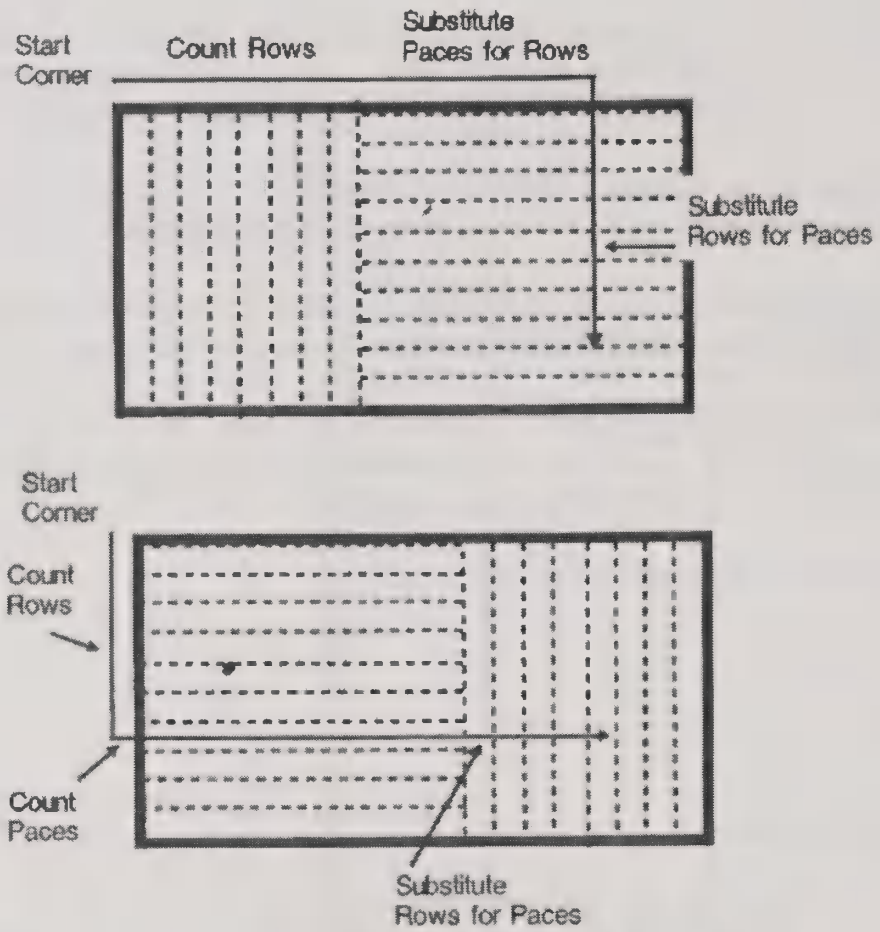
Special Problems

Rows too Short to Lay Out Unit



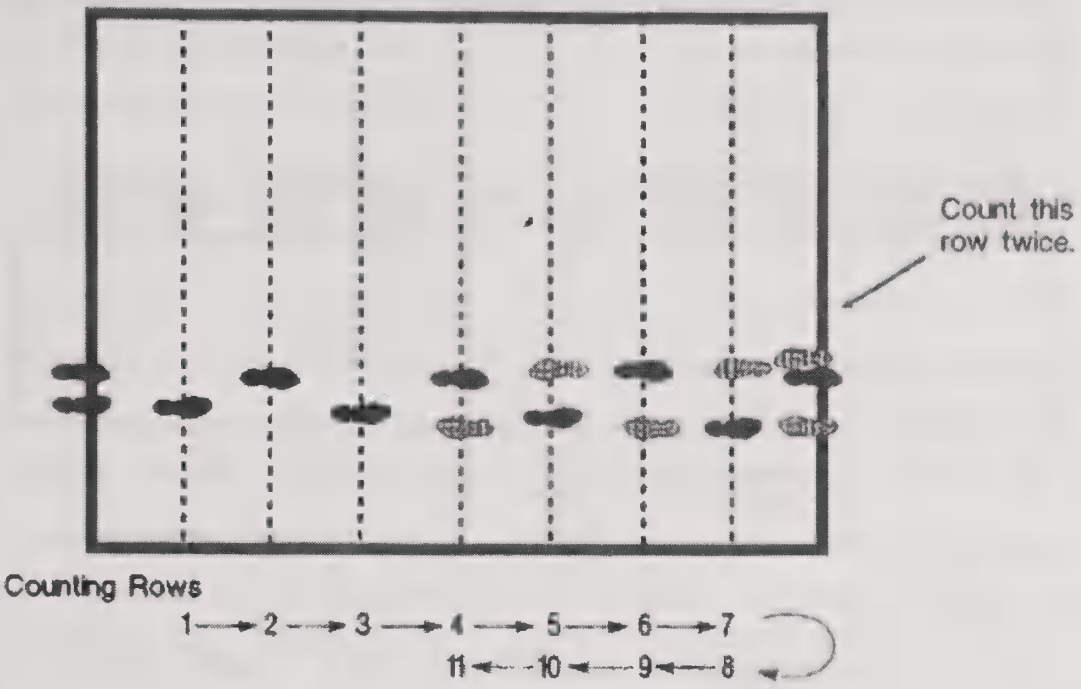
If the unit falls in a row shorter than the length of a sample unit, go further across the field in the direction of travel until you come to a row at least the length of a sample unit. The row must be at least 25 feet in length.

Rows Change Direction



If the direction of the rows changes at right angles, or if there is no definite direction to the rows, or if it is otherwise impossible to count rows, continue in the same direction along the edge of the field and substitute an equal number of paces for rows. Make a note on the form and on the sample field kit envelope. Always lay out the unit away from the starting corner.

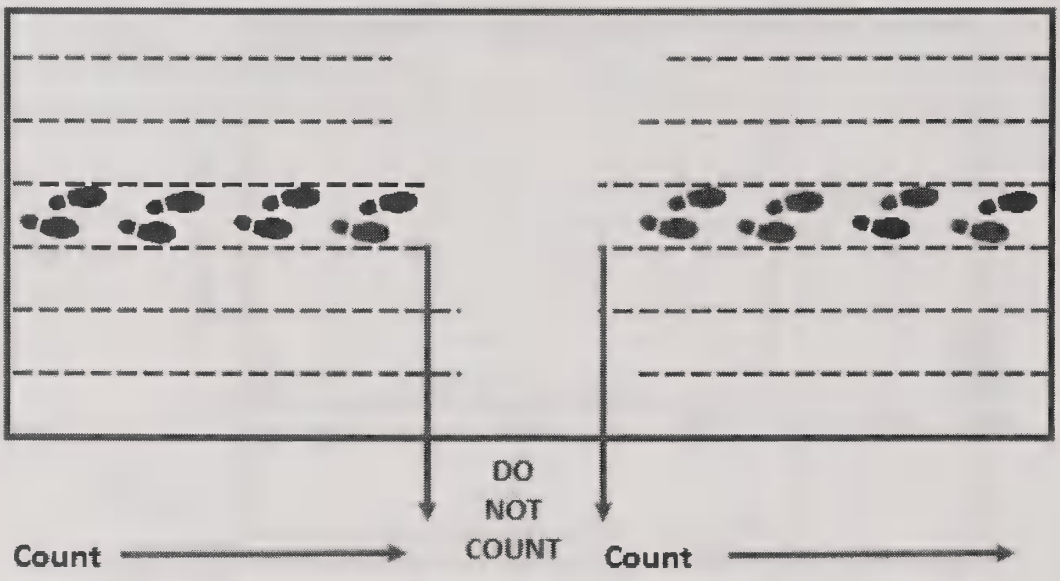
Bounce Back Techniques



In counting rows, if you reach the opposite edge of the field and still have not counted the correct number of rows, turn around and walk back in the direction from which you came until the required number is counted. The last row is counted twice--once as you go out of the field and again as you start back into the field.

In counting paces, if you reach the end of the field and still have not counted the correct number of paces, turn around and walk back in the direction from which you came until the required number of paces is counted. Lay down the dowel stick and lay out the unit in the same direction that you were traveling when you counted the last pace.

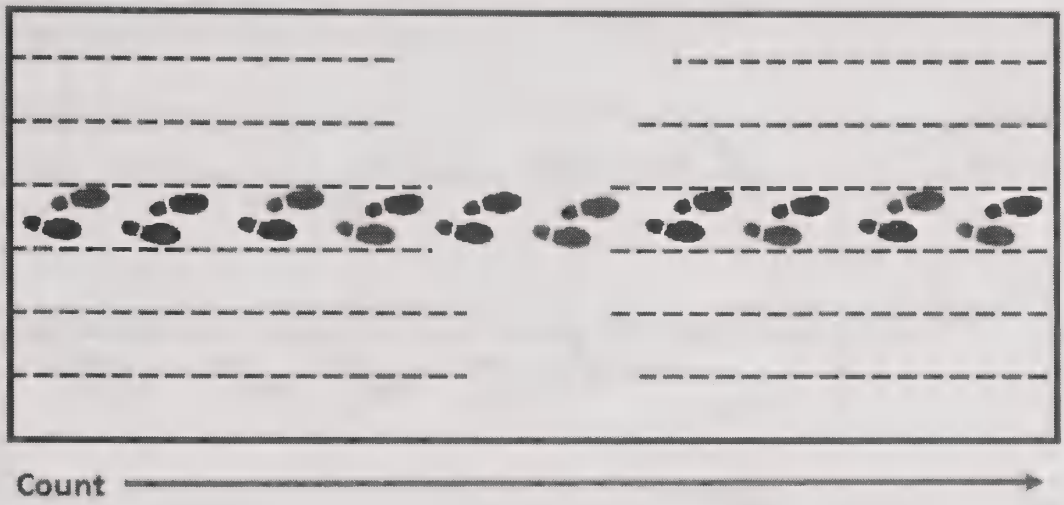
Blank Area that was Deducted on Form A



If, when counting rows or paces, you cross an area which was deducted from the acreage to be harvested (not planted, abandoned, to be harvested for some other use, planted to another crop, etc.), stop your count at the start of the area and resume the count on the other side.

If a unit location falls partly in an area which was deducted from the acreage for harvest move the unit until it is located wholly on acreage planted to potatoes with the end point of the unit one and one-half feet from the deducted area. This also applies when part of the unit falls beyond the edge of the field.

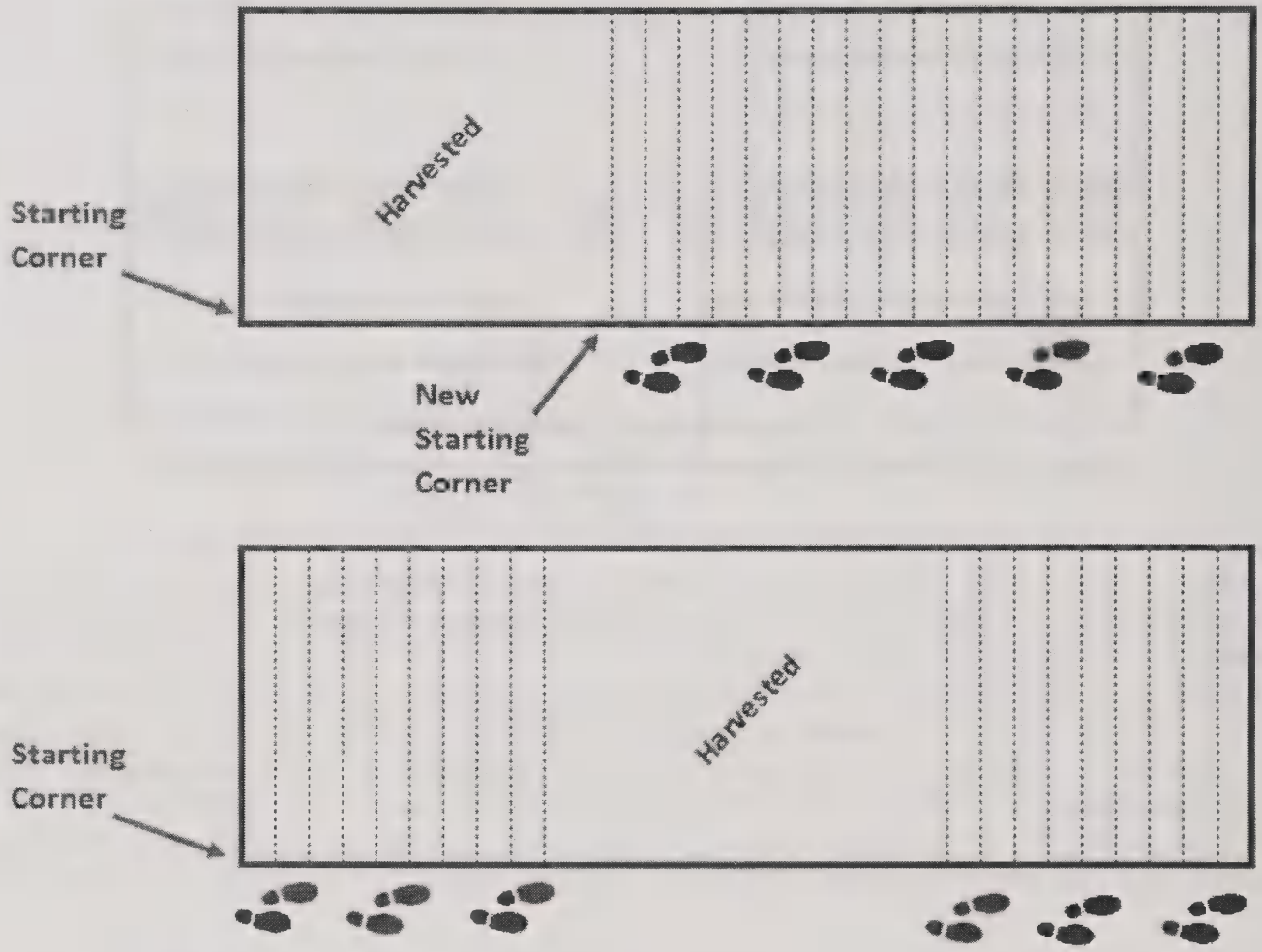
Blank Area or Other Crop Not Deducted on Form A



If you cross an area which was not deducted from the acreage to be harvested - continue to count rows (or paces) through this area. Usually, such areas are small drowned out spots or skips due to poor seed germination and plant survival.

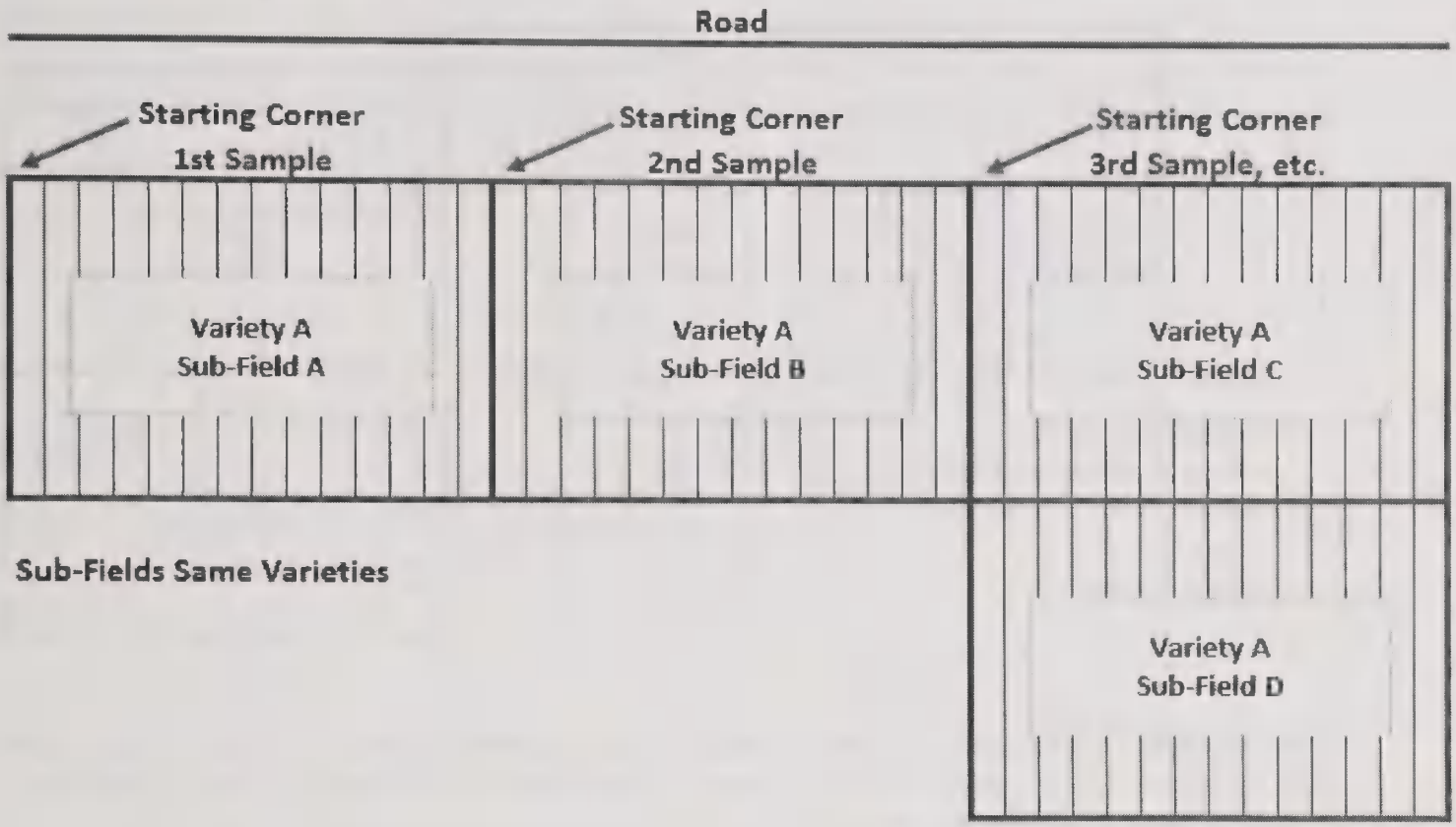
In case a 20-foot unit falls in a blank area, the unit should be staked out and the row spacing measured and recorded. Zeros will be entered on Form B for counts in the section. Add notes explaining why "zero" counts were recorded.

Part of the Field Harvested



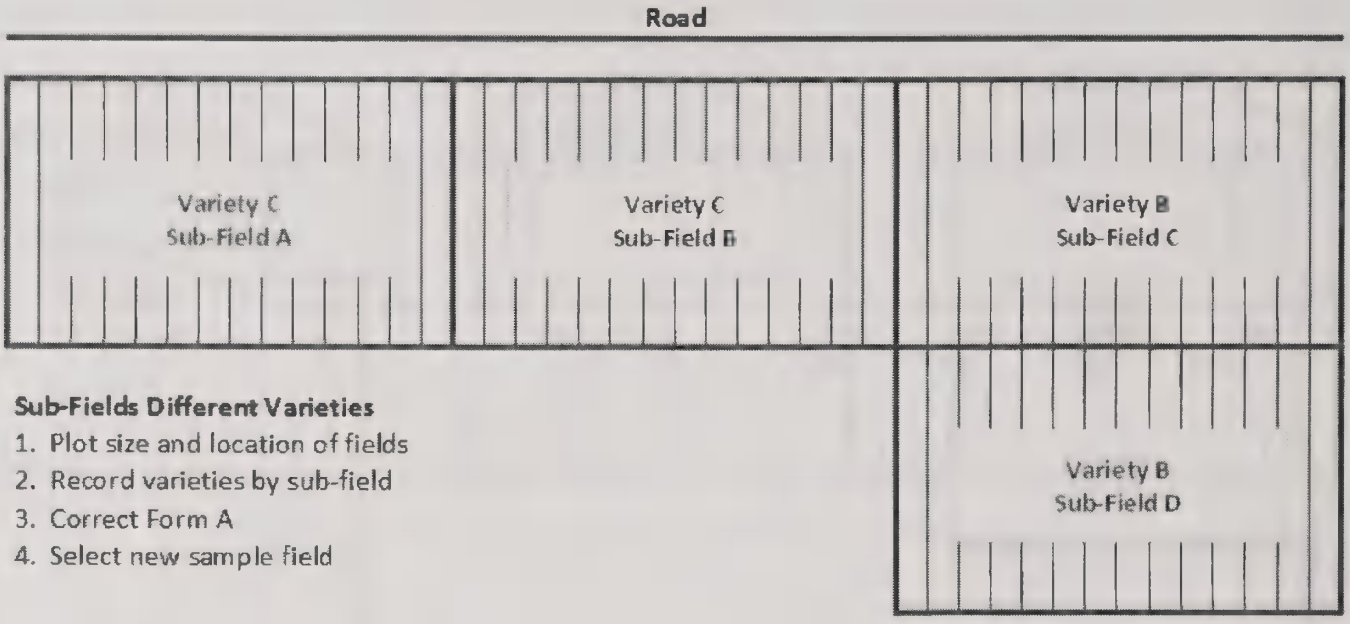
If the farmer has harvested part of the field, stop counting rows in the harvested area and resume counting on the other side.

Several Fields Assigned to Sample Field - Same Variety Planted



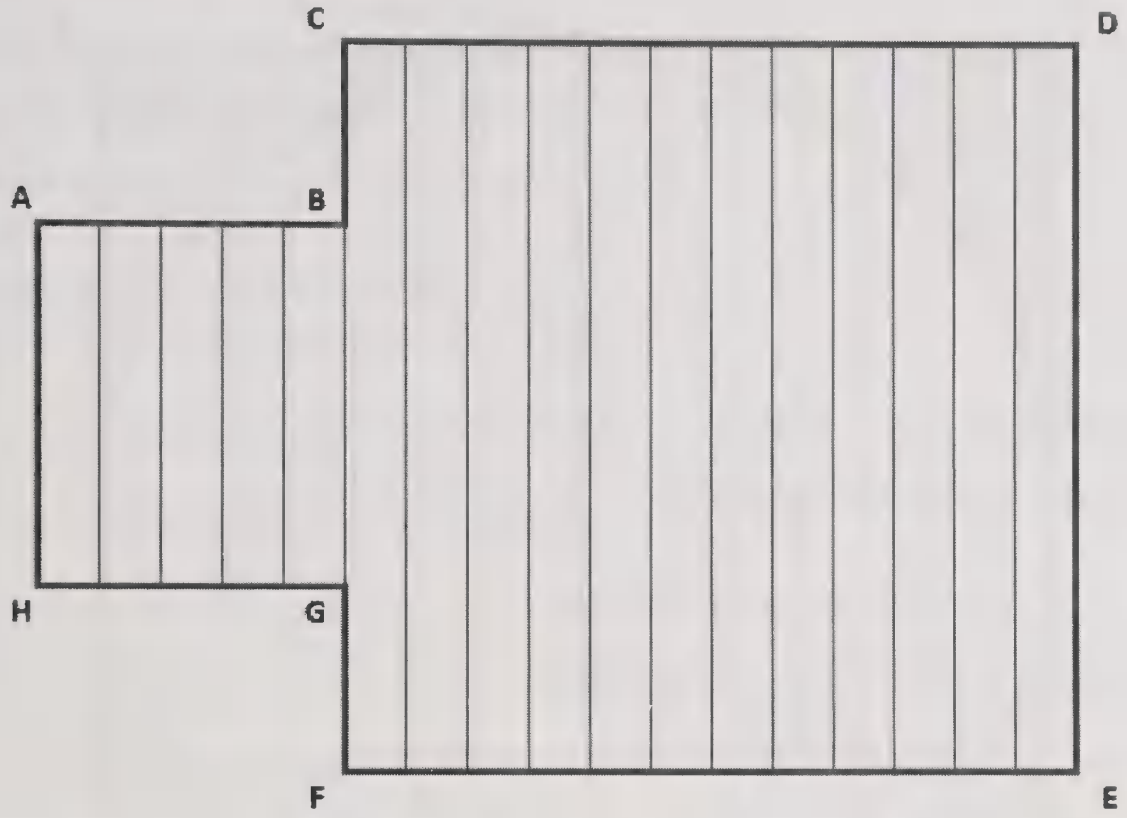
If it is obvious the farmer has several distinct fields included in the acreage figure assigned to the sample field, determine the variety or varieties planted in each sub-field. If the sub-fields are planted in the same variety, select the sub-field which you come to first; be sure this sub-field is of the same variety as the sample field on the Form A. If more than one sample was selected from this field, use the nearest corner of the second (third) closest "sub-field" as the starting corner for locating the units for the second (third) sample number.

Several Fields Assigned to Sample Field - Different Varieties Planted



If the sub-fields are planted to different varieties, plot the size and location of each field using the grid map. Be sure to indicate the variety for each field. After following this procedure call the State office to obtain the sample acres for determining the sample field.

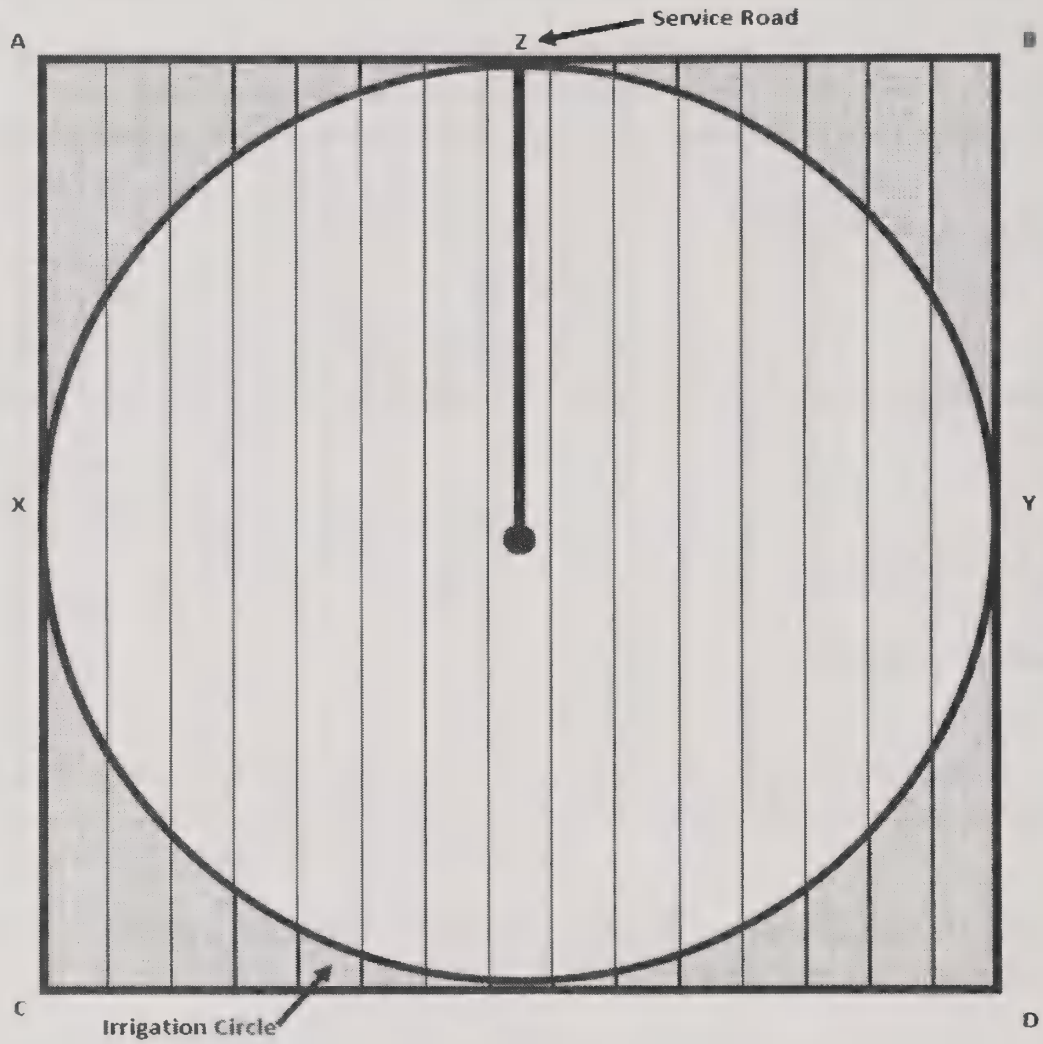
Odd-shaped Fields - Starting Corner



Corners A, D, E, or H could be the starting corner under the "unit location" principle because the sample unit would have equal chance of falling anywhere in the field.

Corners B, C, F, or G cannot be the starting corner because the unit has less chance of falling in the areas of the field marked by corners A, B, G, and H. For example, if you made corner B your starting corner and counted rows towards corner A, rows B to A would have a chance to be in the sample twice before rows B to D had a chance to be in the sample once.

Center Pivot Fields



Scenario 1

The entire field including corners is planted to potatoes. Since there is no differentiation between irrigated and non-irrigated plantings for potatoes in any state, the correct choices for starting corners are A, B, C, and D even though the access road is at point Z. In most cases, the most accessible starting corners will be A and B since the service road can be accessed from the same side of the field. Pace along the edge of the field and into the field will be counted in the usual manner.

Scenario 2

The circle only, not including the shaded corners is planted to potatoes. Since the service road (point Z) is the most accessible corner in most cases that is considered the starting point. While standing at point Z, unit 1 will be laid out to the right (towards point X). After unit 1 has been laid out, go back to point Z and lay out unit 2 to the left (towards point Y). Paces will be counted in the usual manner.

If you have more than one sample to lay out in the field, the starting point for the second sample would be point X. The starting point for a third sample would be point W and a fourth sample would start at point Y

Chapter 5 – Form B

General

Form B will be completed immediately following the initial interview if:

Potato vines are dead and no further plant growth is evident.

–OR–

The **operator plans to harvest** the field **within** the next **two days**.
Some farmers are now harvesting when vines are green.

If neither condition is satisfied, return at a later date to lay out the sample units, dig sample hills and count tubers. Refer to the date entered on the field kit envelope. Keep in close contact with the grower to determine the proper time to make this second visit. At that time enter the date of arrival at the field. Lay out the sample units following the instructions in Chapter 4.

If you have made counts and measurements in a green field, re-contact the farmer to see if the count unit(s) have actually been harvested. If not harvested, see when harvest is expected to resume. Then make a re-count using an additional 5 rows and 5 paces and fill out another substitute Form B.

For a few samples you may find the entire field has been harvested. If so, write "Field harvested" on Form B. Send all forms to the state office. Do not harvest from an alternate field.

Row Space Measurements

		UNIT 1	UNIT 2
4. Measure distance from center of the stems in Row 1 to the center of the stems in Row 2	Feet & Tenths	301 . ____	302 . ____
5. Measure distance from center of the stems in Row 1 to the center of the stems in Row 5	Feet & Tenths	303 . ____	304 . ____

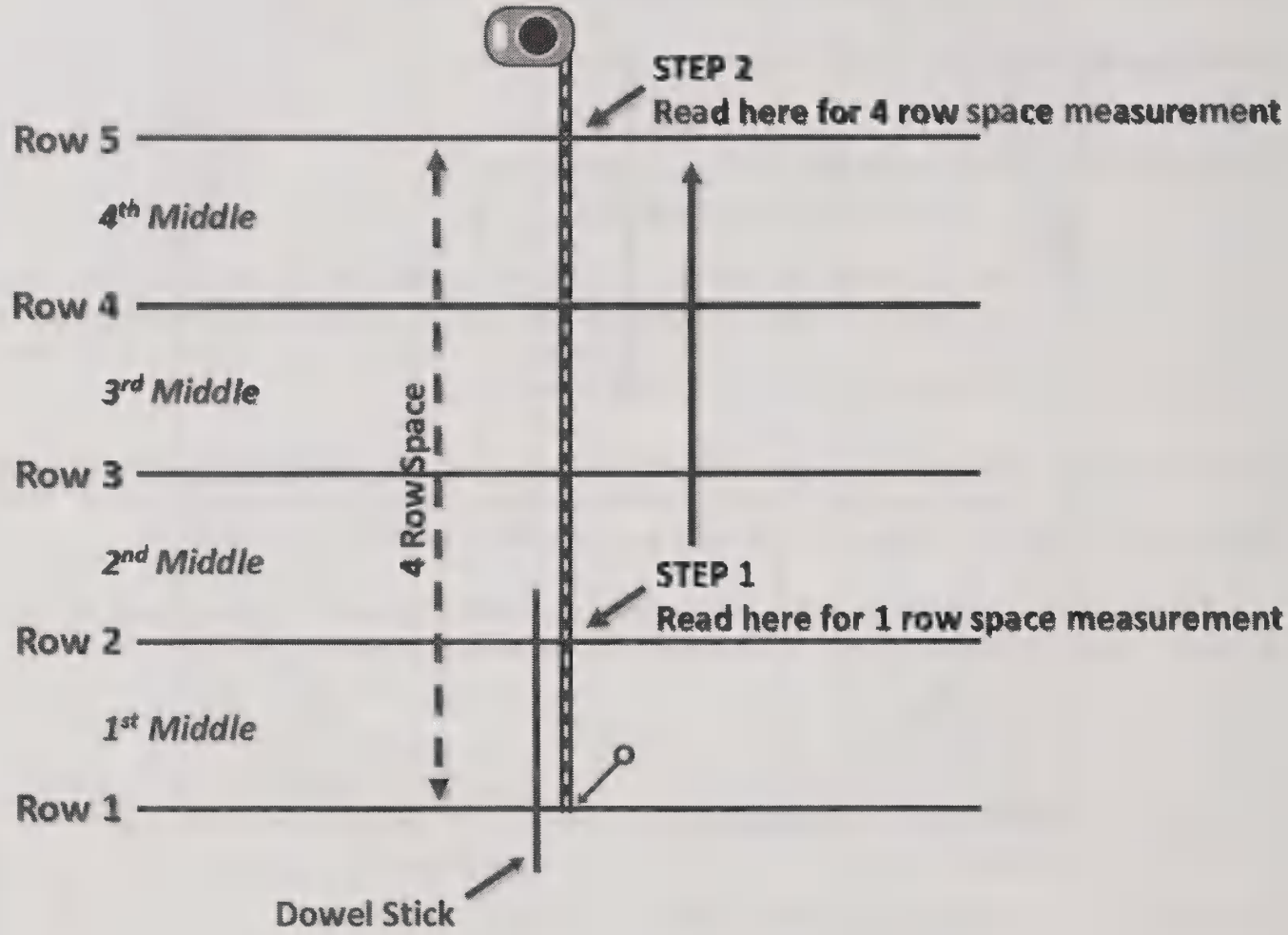
The row space measurements obtained on the Form B are a very important part of the yield estimate. The yield is expanded to a per acre basis using the row space measurements.

At the dowel stick, measure the distance across the first row space with the steel tape. Anchor the end of the steel tape at the center of the stems in the first row in the unit and measure to the center of the stems in the second row. Record this measured distance in feet and tenths of feet. Your 50-foot steel tape must be calibrated in feet and tenths of feet and not in feet and inches.

With the steel tape still anchored at the center of the stems in Row 1, measure to the center of the stems in Row 5. This is the distance across 4 row spaces.

If there are not enough rows remaining to get a 4-row space measurement, measure from the center of the stems in Row 2 in the direction of Row 1 across 4 row spaces. Remember, measure along the top of the hills and not over the plants.

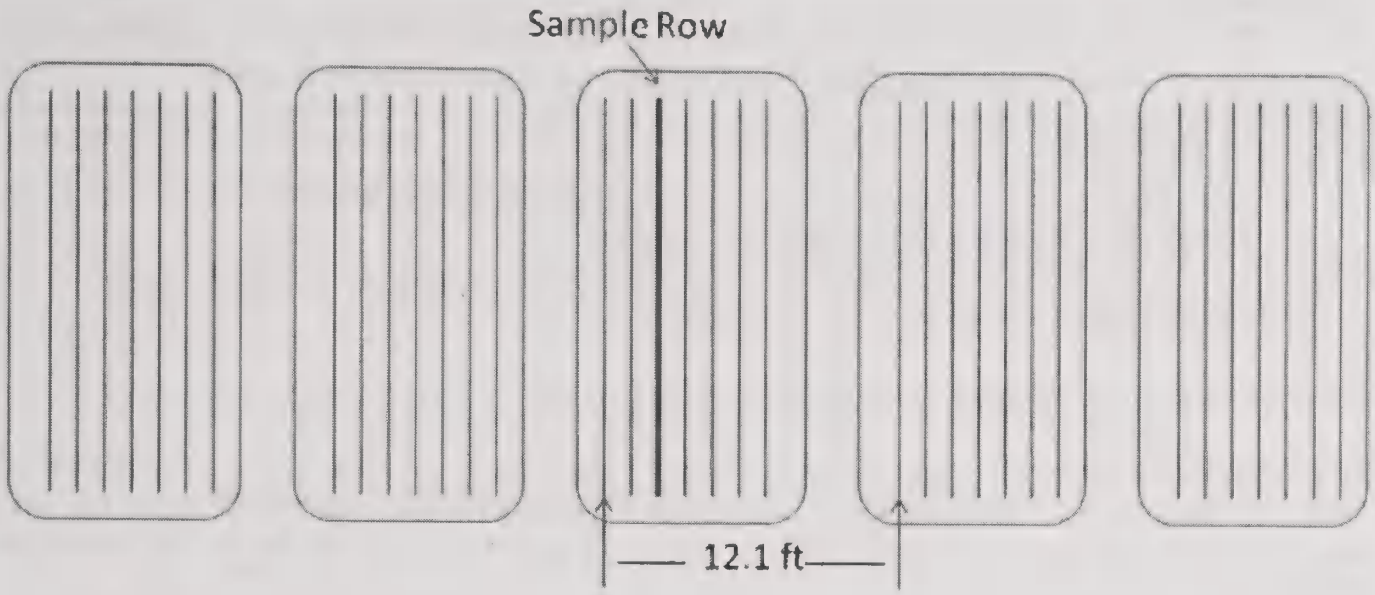
Blank Units: If the unit(s) should fall in an area where there were no tubers to count, then an **888.8** should be entered in the row space measurement(s) for that unit(s). The edit will also check that all counts for the blank unit(s) are zero.



Row Space Measurements for Potatoes Planted in Beds

A small, but growing number of farms plant potatoes in bedded rows instead of single hilled rows. Bedded rows are typically used when large tuber size is not necessary or desired, especially for the production of red potatoes for fresh market, seed potatoes, and fingerling potatoes. Fields with bedded rows cannot be furrow irrigated.

To accurately calculate plant population in bedded fields, a few additional measurements and calculations are necessary. First, measure the distance from the center of stems in the first row of the bed containing the sampled row to the center of stems in first row of the next bed. For the most common bedded row plantings, this distance is approximately 12 feet. Divide this distance by the number of rows per bed. This is the average single row space. Enter this number in the cell for Item 4 on Form B. Multiply the average single row space by four and enter the product in the cell for Item 5 on Form B. Leaving comments on Form B about the distances measured, number of rows per bed, and calculations made will be helpful to the state office.



For the example above, the measured distance from the center of stems in the first row of the sampled bed to the center of stems in first row of the next bed is 12.1 feet. These beds have 7 rows, so the average row space is 1.7 feet. 12.1 ÷ 7 = 1.729

Round to the nearest tenth, and enter 1.7 for Item 4 on Form B. Next, multiply by four. 1.729 x 4 = 6.914

Again, round to the nearest tenth, and enter 6.9 for Item 5 on Form B.

Counts within 20 Foot Units

	305	306
6. Number of **HILLS**		

Count the number of hills in the 20-foot unit. Include all hills, regardless of their size or condition. While counting, tie flagging ribbon around hills 8, 9 and 10. Identification of individual hills may often be difficult. Each hill will usually consist of 1 to 5 stems originating from one seed piece. Occasionally, however, two or more seed pieces may fall in close proximity, resulting in a large number of stems that will be included in the hill. A volunteer (a stem from previous year's tuber) is considered to be a hill of potatoes.

Rule 1 If any stem of a hill emerges from the ground exactly at the 5-foot stake, include the entire hill in the unit.

Rule 2 If any stem of a hill emerges from the ground exactly at the 25-foot ending stake, exclude the entire hill in the unit.

Be particularly careful not to record two stems of the same hill as two hills. Even if a hill is dead it is still included in the count. Include any potato hill in the count even though the tops have been chopped or broken off. If there are no hills in the unit, enter zero.

Special Rule: If it is impossible to count the number of hills in the 20-foot row unit, assume each successive foot of row is a hill and enter "20" in Item 6 for the number of hills. Make a note in the margin of the Form B explaining why hills cannot be counted.

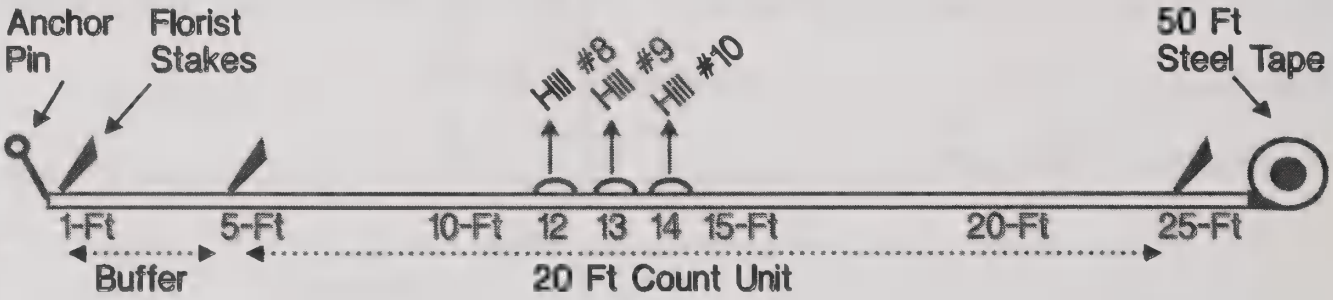
Select hills 8, 9, and 10 in each unit, dig each hill, brush and thoroughly clean tubers.
Count tubers 1 ½ inches or more in diameter (use gauge).

7.	Number of **TUBERS** 1 ½ inches or more in diameter	307	308

Three hills will be dug according to the diagram in Chapter 4 and "Guides for Digging" in this chapter.

Hills 8, 9 and 10 will be dug. If the number of hills in the count unit is less than 10, count the number of hills. Then return to the first hill and continue counting. For example, if there were only 9 hills in the row, the 8th and 9th hills selected will be at the end of the unit and the 10th hill will be the first hill at the beginning of the unit.

If the hills cannot be counted and the number of hills recorded is "20" (following the special rule), consider each foot of row as a potato hill and dig 3 feet of row space between the 12 foot mark and the 15 foot mark as illustrated in the following diagram.



Count all tubers 1-1/2 inches or more in diameter for each hill and record the total number for the unit in Item 7. Use the tuber gauge to determine the size of questionable tubers. If it passes through the hole, it is less than 1-1/2 inches in diameter. It should be excluded from the count of tubers and left on the ground. Tubers less than 1-1/2 inches in diameter are not considered part of the biological yield because these small tubers will never be marketed. The small tubers culled are never included in the production. Enter the count in the space provided. Brush and thoroughly clean the tubers from the hills and put all tubers from the three hills in mesh bags. Place tubers from each unit in separate mesh bags and attach an ID tag to the outside of each.

Avoid damage to tubers while digging. If you do slice or damage a tuber, reconstruct the potato using toothpicks and place it in a separate zip lock bag. This bag should then be sealed and placed in the bag for tubers from that unit.

Each rotten potato should be placed in a separate zip lock bag, sealed and placed in the bag for tubers for the unit. If the potato is mush and does not hold form, do not include it in the count and leave it on the ground. Complete an ID tag and attach it securely to the outside of each bag.

Guides for Digging

When digging the 3 sample hills, dig the middle hill and then the hills on either side. Be careful not to dig tubers from hills 7 or 11.

Identification of the tubers with regard to their "mother" hill can frequently be difficult. The following guides will aid in determining the "mother" hill.

a. Identification of the "mother" hill can generally be determined by observing the stolon (root-like stem) connecting the tuber to the plant. To avoid breaking the stolons, the following method should be used:

    1) Start digging at the base of the furrow to the sides of the selected hill.

    2) Dig under the selected hill. Avoid disturbing the hill on either side.

    3) Remove the tubers as you dig under the hill, watching which hill the stolon comes from.

b. If the stolon cannot be found connected to the tuber, determine which end of the tuber is the stem end. The stem end will point toward the hill the tuber came from.

c. If the "mother" hill cannot be determined by either of the above two methods, determine which hill the tuber was closest to.

d. If two seed pieces were dropped together, consider this as one hill. All tubers which developed from these two seed pieces should be included.

When digging is complete, and tubers have been counted and bagged, place the vines and potatoes less than 1 ½ inches in diameter in the holes and refill them.

While digging sample hills, be sure to search thoroughly -- sift through clumps of dirt to make certain all tubers 1 ½ inches or more in diameter have been found.

Tubers will be weighed by field enumerators in all areas except Idaho, Maine, Oregon and Washington. Idaho, Maine, Oregon and Washington will send both units to the lab for weighing. Field weighing is not required in these four States. All enumerators in States other than these four States will be trained in proper procedures for field weighing at the State training workshop.

All States will send both units to the lab for grading and sizing. Procedures for forwarding samples to the lab are State specific and will be provided by the State office.

IDAHO, MAINE, OREGON and WASHINGTON – Skip items 8 and 9 and send tubers from both units to lab.

8. Enter type:	Red = 1 White = 2 Russet = 3 Yellow = 5	. . . . . **CODE**	317

All States except Idaho, Maine, Oregon and Washington will enter the type of potato in the code box. Enter a 1 for Red, 2 for White, 3 for Russets, or a 5 for Yellow.
When all items are completed for both units, check the Form B to see that all entries are correct, enter enumerator, supervisor numbers and sign your name.

Idaho, Maine, Oregon and Washington will put the completed Form B in an envelope and the envelope inside the mailing carton with the mesh bags from Unit 1 and Unit 2. Send this carton to the lab on the same day the potatoes were dug.

NOTE: Fingerlings and some non-fingerlings (Binji –'Red') varieties still need to be sent to the lab even though these potatoes are too small for the 2 inch ring. These varieties are being harvested at small sizes for a specialty commodity market.

Completing Sample ID Tags

An ID Tag must be completed and attached to the outside of each mesh bag each time a unit is dug or a gleaning sample taken. These tags are essential to identify potato samples from the time they leave the field until they reach the final step of the process.

An example of the Sample ID Tag is shown. Follow instructions carefully when completing each ID tag. One ID tag will be used in each bag for each unit.

1) State, POID and sample number must be completed for proper identification. Copy this information from the sample field kit envelope.
2) Enter the fieldwork date, the variety and your name. The date on the sample ID Tag must match the date on the corresponding Form B or E.
3) Check the unit.
4) Fill in number of tubers and weight of tubers if field weighed.
5) Fasten the tag to the outside of the mesh bag.
    a. Idaho, Maine, Oregon and Washington will place mesh bags in a mailing carton and send them to the lab.
    b. Enumerators in other states will take the bags from the field to their scales at home for weighing.
6) Once weighed at home, enumerators in MN, ND, OR and WI will send potatoes to the lab for size and grade analysis. Specific details for mailing procedures will be provided by the State office.

Pre-Harvest and Post-Harvest Lab Tag (For Regional Lab)

POTATO OBJECTIVE YIELD IDENTIFICATION TAG

STATE ND

POID 83700 5350

SAMPLE NO. 210

FORM B DATE 9/21/07

FORM E DATE

VARIETY Burbank

ENUMERATOR House Farm

PRE-HARVEST SAMPLE

A. Unit Number Unit 1 ☑ Unit 2 ☐

B. Number of Tubers 24

C. Weight of Tubers 40869
(If field weighed)

ALL STATES SEND TO LABORATORY

POST-HARVEST GLEANINGS

Unit 1 ☐ Unit 2 ☐

IDAHO and MAINE SEND TO LABORATORY

Field Weighing Procedures

Weigh the tubers from item 7 and record the weight.
(*Remove tubers from bag and brush before weighing*)

			UNIT 1	UNIT 2
9.	**Field weight of each unit**	**GRAMS**	309	310
a.	Second weighing (*Use only if scale capacity exceeded*)	**GRAMS**	311	312
b.	Third weighing (*Use only if scale capacity exceeded*)	**GRAMS**	313	314

Remove tubers from the bags and brush off dirt and debris prior to weighing. Weigh the tubers from the unit. It may take more than one weighing to get the total unit weighed. Record the weight to the nearest 5 grams. Space has been provided for a second and third weighing if the weight of tubers in the unit exceeds the capacity of the scales. Weights for the unit should also be recorded on the tab sheet provided by the State office.

Idaho, Maine and Washington will skip question 9. Send tubers from both units to the designated state lab for processing.

Scales for weighing preharvest and post-harvest samples will be set up at your home and samples will be carried there from the field. Once samples are weighed, the samples will be sent on to the lab for size and grade analysis.

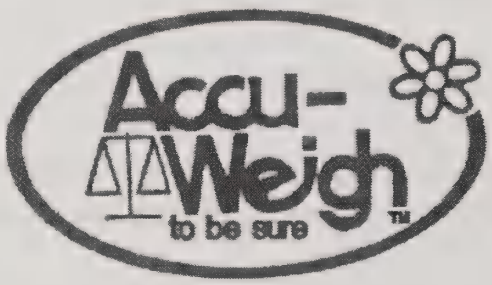
Scale Set-up

Locate the scales in an area free of drafts, heavy foot traffic, and household appliance vibration. A garage, basement or outbuilding is recommended. Your supervisor should check the work area before any samples are weighed.

Place scale on a solid level surface. Center the scales within the work area, leaving room around the scale for placing materials. Have the scale located where you can look straight at the dial or the reading will not be correct.

Level scales and mark the corners of the base of the scale on the counter or work top area. If the scale is moved or jarred, the scale could be put back to the original spot. Try to leave the scale in this spot throughout the survey.

Balance and level the scale each day before weighing samples.



universal

DIAL
SCALES

The Accu-Weigh Universal Dial scales are fairly simple, yet amazingly accurate weighing machines. Each unit is equipped with a temperature compensated double spring mechanism which requires virtually no maintenance.

Weight readings are obtained by extension of pre-adjusted springs through a vertical lever system. The two springs are factory adjusted and are equipped with "calibrators" which are used to increase or decrease the "power length" of the springs (See figure 1). From time to time, it is recommended to place, on the center of the platform, a test weight equal to the maximum capacity of the scale. If necessary and to compensate for possible general metal fatigue due to extensive usage, remove the two side panels and follow these simple instructions to quickly restore correct calibration:

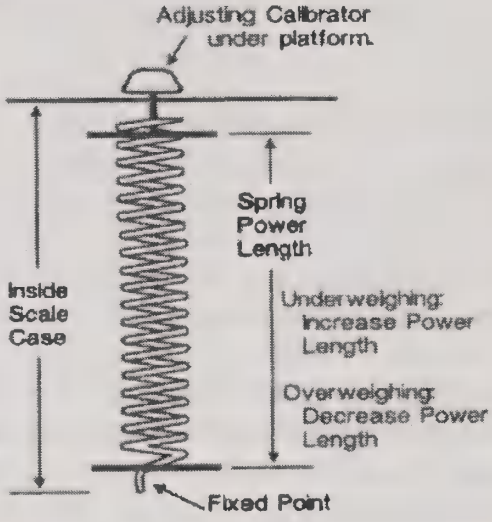
a) If the indicator shows less than the correct weight, the "power length" of the spring must be increased by turning the calibrator (or the spring -whichever is the easiest) accordingly. (See figure 1) For each graduation of required adjustment, turn the "Calibrator" approximately ¼ turn. This correction must be made equally on BOTH springs. Then, re-set the zero and check the scale at full capacity. Repeat this operation until correct weighing is restored, keeping in mind that, after each spring adjustment, the "zero" balance must be re-set before test weighing.

b) If the indicator shows MORE than the correct weight, the "power length" of the springs must be decreased by turning the "calibrator" (or the spring-whichever is the easiest) accordingly. For each graduation of required adjustment, turn the "calibrator" approximately ¼ turn. This correction must be made equally on BOTH springs. (check # of turns)

Then, re-set the "zero" and check the scale at full capacity. Repeat the "zero" and check the scale at full capacity. Repeat this operation until correct weighing is restored, keeping in mind that, after each spring adjustment, the "zero" balance must be re-set before test weighing.

For Models equipped with air dashpots, from time to time remove the two side panels and open the dampening adjustment screw to its maximum position. Move the platform up and down vigorously several times to chase out any foreign material or water that could possibly plug up the air hole.

Re-adjusting Scale to Desired Dampening Action



Your Accu-Weigh Universal Dial scale will deliver sustained accuracy for a long, long time provided that you treat it with the minimum amount of precaution due any precision instrument. It is recommended not to drop the load on the platform and to avoid "overloading". For best weighing accuracy, always place the load on the center of the platform.

Where required, wipe clean with a wet cloth and do not allow water to run over the scale. When the scale is moved from one location to another, be sure to check the "zero" balance before using and to re-set it if necessary by turning the adjusting screw located under the platform on the front part of the scale.

The Accu-Weigh Universal Dial scales are sold nationwide by Independent Scale Dealers. Their Service Department will promptly provide, if ever required, additional competent service.

Project Code 117 QID 1200388

OMB No. 0535-0088. Approval Expires 7/31/20YY

USDA

FORM B
POTATO YIELD COUNTS 20YY

NATIONAL AGRICULTURAL STATISTICS SERVICE

Date: _____

1. Has operator applied pesticides with organophosphorus content to the sample field?
   ☐ YES ☐ NO

   If YES, enter latest application date _____ and name of pesticide _____

UNIT LOCATION

		UNIT 1	UNIT 2
2. Number of rows along edge of field	Rows		
3. Number of paces into field	Paces		

ROW SPACE MEASUREMENTS

		UNIT 1	UNIT 2
4. Measure distance from center of the stems in Row 1 to the center of the stems in Row 2	Feet & Tenths	301	302
5. Measure distance from center of the stems in Row 1 to the center of the stems in Row 5	Feet & Tenths	303	304

COUNTS WITHIN 20 FOOT UNITS

	UNIT 1	UNIT 2
6. Number of **HILLS**	305	306

Select hills 8, 9, and 10 in each unit, dig each hill, brush and thoroughly clean tubers. Count tubers 1 ½ inches or more in diameter (use gauge).

	UNIT 1	UNIT 2
7 Number of **TUBERS 1 ½** inches or more in diameter	307	308

IDAHO, MAINE, OREGON and WASHINGTON – Skip items 8 and 9 and send tubers from both units to lab.

8 Enter type: [Red = 1 White = 2 Russet = 3 Yellow = 5] CODE 317

Weigh the tubers from item 7 and record the weight.
(*Remove tubers from bag and brush before weighing*)

		UNIT 1	UNIT 2
9. **Field weight of each unit**	GRAMS	309	310
a. Second weighing (*Use only if scale capacity exceeded*)	GRAMS	311	312
b. Third weighing (*Use only if scale capacity exceeded*)	GRAMS	313	314

Enumerator: _____

Enumerator Number	390
Supervisor Number	391
Evaluation	393
STATUS CODE	380

FORM B: POTATOES *Continued*

LABORATORY DETERMINATIONS

IDAHO, MAINE, OREGON AND WASHINGTON – Complete items 10, 11 and 12.

		LAB WEIGHT
10. **UNIT 1 net weight**	GRAMS	315
11. **UNIT 2 net weight**	GRAMS	316
12 **Red = 1, White = 2, Russet = 3, Yellow = 5**	CODE	317

Chapter 6 – Form E

General

The gleaning observations for Form E are made within three days after the field is harvested. Do not glean a field which has been disked or plowed since harvest.

If the sample field has been plowed, an alternate field on the sample farm will be gleaned if a recently harvested field is available. The alternate field must have the same potato variety as the designated sample field. If no alternate field is available, no gleaning can be done. Note the reason for no gleaning.

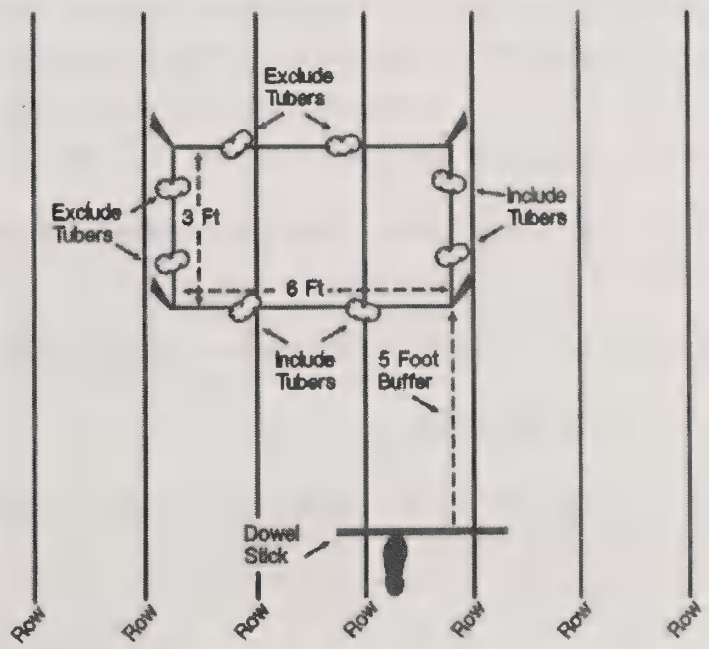
If the sample field is not completely harvested, lay out the gleaning unit in the harvested portion of the field. Use the rows and paces shown on Form E starting from the most accessible part of the harvested area.

Locating and Laying Out the Post-harvest Unit

The post-harvest unit location is determined by adding five to the Unit 1 rows and paces and five to the Unit 2 rows and paces used for the Form B. Do not attempt to locate the preharvest units. In many harvested potato fields, it is impossible to determine where the original rows were located. In such cases, substitute paces for rows along the edge of the field.

Follow the procedures described in Chapter 4 (steps 1-5) to locate the post-harvest unit. At the dowel stick place an anchor stake and measure a 5 foot buffer zone to reach the first corner of the post-harvest unit. The unit will be laid out to the front and in the direction of the increasing row count. The post-harvest unit will be 6 feet long and 3 feet wide with the length perpendicular to the rows. Use florist stakes to mark the corners and connect the stakes with flagging ribbon. Take time to make sure the rectangle is correctly laid out.

If two or more samples fall in the same field, go to the next consecutively numbered corner to lay out the respective gleaning samples, just as the preharvest samples were laid out. (See Chapter 4)



Form E

Include all tubers or portions of tubers within the gleaning area. Search the area thoroughly for potatoes to a depth of 12 inches below the surface. Clumps of dirt should be broken up to find hidden tubers. Include potatoes on top of the ground as well as those below ground. Use the tuber gauge to check small, whole potatoes for size. Discard all whole tubers less than 1 ½ inch with one exception. If the field being gleaned contains fingerling varieties then all potatoes must be collected regardless of size. Include all portions of tubers regardless of size.

Tubers 1 ½ inch in diameter or larger and pieces of tubers on the closest 6 foot boundary (nearest the buffer zone) and the 3 foot boundary located nearest the buffer zone will be included. Tubers and pieces located on the remaining two boundaries will be excluded (See diagram above.)

Place gleanings from each unit in separate mesh bags and attach an ID tag to the outside of each.

	UNIT 1	UNIT 2
3. Number of whole tubers 1 ½ inches or more in diameter and pieces of tubers in each unit	715	716
	CHECK EACH BOX AS COMPELTED	
4. Place gleanings from each unit in separate mesh bags and attach ID tag to the outside of each . . . **Check**	☐	☐

Clean dirt from the tubers and seal the potatoes from each unit in a mesh bag. Any rotten tubers will be placed in a separate zip lock bag (unperforated) which will be sealed and placed in the mesh bag for the respective unit. Complete an ID Tag for each unit and attach to the outside of the bags.

5. Weigh gleanings from each unit and record the net weight . . . . . **Grams**		707	708
6. Enter type	Red = 1 White = 2 Russet = 3 Yellow = 5	. . . . . **Code**	718

All States except Idaho and Maine will weigh the gleanings from each unit and record the net weight to the nearest 5 grams. Idaho and Maine will send gleanings from both units to the lab.

7. Was an alternate field used for making post-harvest observations? ☐ **YES** ☐ **NO**

Check the appropriate box. If post-harvest observations cannot be made, list the reasons in the space provided following "FIELD NOTES".

When all items are completed, enter enumerator and supervisor numbers and sign your name.

The back of the Form E is for **OFFICE USE ONLY**.

Idaho and Maine will put the completed Form E in an envelope inside the mailing carton with the mesh bags. Send this carton to the lab on the same day the potatoes were dug.

Project Code 117 QID 120035E OMB No. 0535-0088; Approval Expires 7/31/20YY

USDA

FORM E
Potato Yield Survey Post-Harvest Gleanings
20YY

NATIONAL AGRICULTURAL STATISTICS SERVICE

Date: _____

NOTE: The post-harvest field gleanings should be completed as soon after harvest as possible and must be done within 3 days after harvest. If the sample field has been plowed, disked, or pastured since harvest, select an alternate field for gleaning if a field of the same type is available on the operation.

UNIT LOCATION

		UNIT 1	UNIT 2
1. Number of rows along edge of field	Rows	+ 5	+ 5
2. Number of paces into field	Paces	+ 5	+ 5

POST-HARVEST GLEANING UNIT

Lay out post-harvest units for POST-HARVEST GLEANING SAMPLES ONLY. Thoroughly search the soil in each unit to a depth of 12 inches. Pick up all tubers and pieces of tubers. Discard whole tubers less than 1 ½ inches in diameter (use gauge). Brush and clean tubers. Count each tuber 1 ½ inches or larger and all pieces of tubers.

		UNIT 1	UNIT 2
3. Number of whole tubers 1 ½ inches or more in diameter and pieces of tubers in each unit		715	716
		CHECK EACH BOX AS COMPELTED	
4. Place gleanings from each unit in separate mesh bags and attach ID tag to the outside of each **IDAHO and MAINE** – Send both bags to the lab and go to item 6. **OTHER STATES** – Take both bags to scale location. Remove gleanings from bag before weighing.	Check	☐	☐
5. Weigh gleanings from each unit and record the net weight	Grams	707	708

6. Enter type — Red = 1 White = 2 Russet = 3 Yellow = 5 — Code 718

7. Was an alternate field used for making post-harvest observations? ☐ YES ☐ NO

FIELD NOTES: If post-harvest observations cannot be made, give reasons here.

_____

_____

ENUMERATOR: _____

Enumerator Number 790

Supervisor Number 791

STATUS CODE 780

-2-

POST-HARVEST NATIONAL LABORATORY DETERMINATIONS – IDAHO and MAINE ONLY

Date sample received in lab _____

8. Net Weight..... Grams 717

Lab Technician(s) _____ Date Analysis Completed _____
MM DD

Chapter 7 – CAPI Data Entry

General

CAPI will be used for data entry for Form B records. All data will be recorded on the paper Form B in the field. After the field visit is complete the enumerator will access their assignment listing on the iPad and enter the data for their samples into the CAPI Form B exactly as it was recorded on the paper Form B in the field and submit the record after data entry has been completed.

*****IMPORTANT: NEVER take the iPad into a field under any circumstance.*****

Enumerators may decide to enter the data immediately after they have exited the field or at the end of the day after all of their work has been completed. To take full advantage of the mobile data collection technology developed for this survey it is highly recommended for all data to be entered and submitted by the end of the day it was collected. RFO survey coordinators will provide specific instructions on how they wish to handle the completed paper Form B for samples entered and submitted via CAPI.

Edit Validation System (EVS)

CAPI Form B instruments are equipped with an Edit Validation System. EVS is a system of background checks within the Form B CAPI instrument which will notify users of specific corrective actions that must be taken before proceeding with data entry. The edit checks are written using the same logic the paper Form B is built around.

The EVS was written to help users submit complete records that meet the basic requirements of the survey edit system used for processing OY Survey data at the Regional Field Offices.

Examples of EVS Edits in Place:

- Fieldwork Date must be set before entering any other data in the form
- A Status Code must be selected before submitting a completed sample

NOTE: EVS Edits will not correct errors. The system is only in place to help reduce the instance of errors made during data entry. EVS edits are not a substitute for reviewing your work.

Always review your work before data entry and final submission. Errors on the paper form will also be errors when they are loaded to the survey edit system.

CAPI Form B Status Codes

Prior to the implementation of CAPI data collection in the Objective Yield Survey status codes were determined by the survey statistician based on the data reported by the enumerator who completed the form. The status code is used to identify the sample unit's status for the current enumeration period based upon recorded observations.

A status code must be selected at the end of each Objective Yield form to allow it to be submitted.

Please read the selections from the drop-down menus carefully before selecting the code that identifies the current status of the sample being enumerated.

Status codes differ across all Objective Yield forms for all crops

Potato Form B Status Code Definitions

1- Complete

The sample field is standing for harvest (vines are dead or farmer expects to harvest within 2 days) and sample unit measurements have been recorded.

First Visit: Complete Form B to meet minimum data requirements for Status Code 1.

Future Visits: No future visit will be required.

Minimum Data Required for Status Code 1:

- Record Fieldwork Date
- Row Space Measurements must be positive (301, 303, 302, 304)
- Counts in Items 6-9 are positive where applicable (305-317)
- Status Code 1 must be selected (380)
  Form B is **not** expected next month.

2- Farmer Harvested before Units Were Laid Out

The sample field was final harvested before sample units could be laid out. No alternate field is available in the tract.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument. If it is a gleanings sample, add fieldwork date and comment explaining the situation on Form E. Complete Form B to meet minimum data requirements for Status Code 2.

Future Visits: No future visit will be required.

Minimum Data Required for Status Code 2:

- Record Fieldwork Date
- Status Code 2 must be selected (380)
  Form B is **not** expected next month.

5- Farmer Refused Field Entry

Form A complete, but farmer would not allow entry to sample field.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument. If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E. Complete Form B to meet minimum data requirements for Status Code 5.

Future Visits: No future visit will be required.

Minimum Data Required for Status Code 5:

- Record Fieldwork Date
- Status Code 5 must be selected (380)
  Form B is **not** expected next month.

7- Refusal

Farmer refused to give an interview and/or denied permission to do field work.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument. If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E. Complete Form B to meet minimum data requirements for Status Code 7.

Future Visit: No future visit will be required.

Minimum Data Required for Status Code 7:

- Record Fieldwork Date
- Status Code 7 must be selected (380)
  Form B is **not** expected next month.

11- Field Abandoned

Farmer planned to harvest sample field at the time of the Form A interview, but later abandoned the field before harvest.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument. If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E. Complete Form B to meet minimum data requirements for Status Code 11.

Future Visit: No future visit will be required.

Minimum Data Required for Status Code 11:

- Record Fieldwork Date
- Status Code 11 must be selected (380)
  Form B is not expected next month.

13- No Potatoes on Entire Farm

The farmer did not plant any potatoes on their operation this year. No sample units were laid out.

First Visit: Add comment explaining the situation on Form B/in Enumerator Comment area of CAPI instrument. If a Gleanings sample, add fieldwork date and comment explaining the situation on Form E. Complete Form B to meet minimum data requirements for Status Code 13.

Future Visit: No future visit will be required.

Minimum Data Required for Status Code 13:

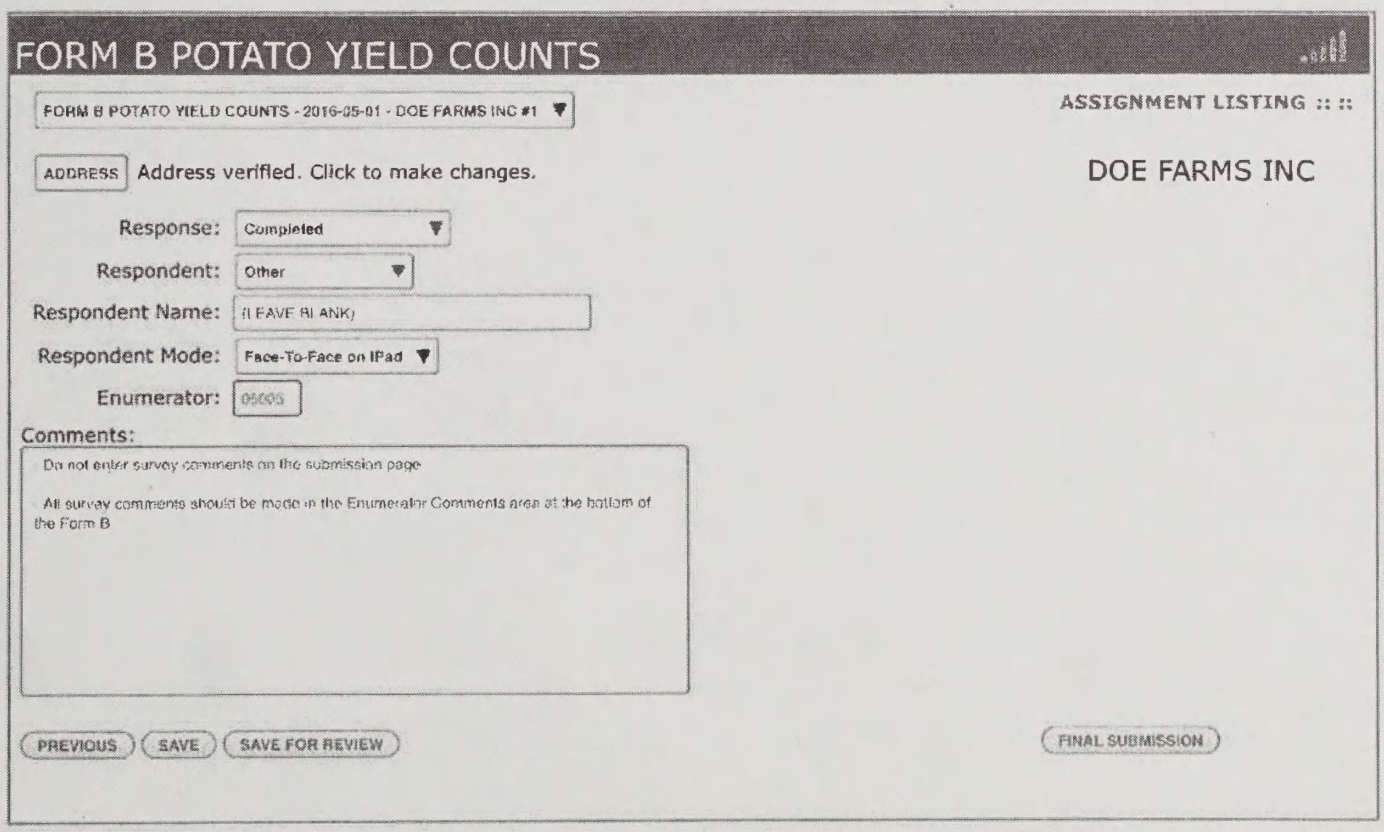
- Record Fieldwork Date
- Status Code 13 must be selected (380)
  Form B is not expected next month.

When Potato Form B Status Code is:	Form B Expected Next Month?
1- Complete	NO
2- Farmer Harvested **before** Units Were Laid Out	NO
5- Farmer Refused Field Entry	NO
7- Refusal	NO
11- Field Abandoned	NO
13- No Potatoes on the Entire Farm	NO

CAPI Response Coding

After Form B data entry is complete and you have clicked the Finish Button at the bottom of the form to submit the record, select the following response codes in the submission screen for each record.

Item	Response Coding Used for OY Surveys
Response:	Completed
Respondent:	Other
Respondent Name:	(Leave Empty)
Respondent Mode:	Face-to-Face on iPad
Enumerator:	Locked out and auto coded from Assignment Listing
Comments:	Do not enter OY comments on the submission page. All OY survey comments should be made in the Enumerator Comments area at the bottom of the Form B.



–NOTES–